UNIFORM SOYBEAN TESTS

SOUTHERN STATES

2019

COORDINATED, ANALYZED AND EDITED BY:

Anne M. Gillen
and
Gary W. Shelton

USDA-Agricultural Research Service
Crop Genetics Research Unit
141 Experiment Station Road
P. O. Box 345
Stoneville, Mississippi 38776

Annual reports are available online at http://www.ars.usda.gov/Main/docs.htm?docid=23815
Uniform Soybean Test Parentage Information Database is available at:
https://soybase.org/uniformtrial/index.php?page=lines

ISSUED JUNE 29, 2020

TABLE OF CONTENTS

INTRODUCTION

The Uniform Soybean Testing Program has been directed toward the testing of elite breeding lines that ultimately leads to the release of varieties. Breeding lines are developed and evaluated in several participating federal and state research programs. As breeding lines demonstrate specific qualities in the individual programs, they are advanced to the preliminary and uniform regional tests conducted in cooperation with research workers in the southern states. This testing program enables breeders to evaluate new strains under a wide variety of conditions, and permits new strains to be put into production in a minimum amount of time. Lines are usually entered only once in the Preliminary Test and then are either dropped or advanced to the Uniform Test for a maximum of three years if performance warrants further testing.

Eleven uniform test groups have been established to evaluate the best strains developed in the breeding programs. The groups 00 through IV are adapted in the northern part of the United States, and the groups IV-S through VIII are grown in the southern part. Within their area of adaptation, there is a maturity range of 12 to 18 days within each maturity class. The best varieties available in each maturity class are used as check varieties with which to compare new strains as to seed yield, chemical composition, maturity, height, lodging, seed quality, and reaction to diseases and nematodes. For the groups grown in the southern area, the check varieties are:
AG39X7, AG4135, LD06-7620, AG43X7, AG4632RR2Y, AG46X7, AG49x6, Ellis, JTN-5203, UA5612, AG53X6, AG55X7, TN11-5140, AG64X8 RR2X, NC-Dunphy (release of NCC07-8138), NC-Dilday (release of NCC06-1090), CZ6316LL, AGS-738RR, AG74X8 RR2X, N7003CN, NC-Wilder (release of NCC06-899), AGS 747LL, AG79X9RR2X/SR, N8001, N8002, and AGS 798R2.

A wide range of soil and climatic conditions exists in the regions. As an aid in recognizing regional adaptation, the region has been subdivided into five rather broad areas which still represent a wide range of soil types. These are: (1) the East Coast, consisting of the Coastal Plain and Tidewater areas of the eastern shore of Maryland, Virginia, North Carolina, and the upper half of South Carolina; (2) the Southeast, consisting primarily of the Coastal Plain soils of the Gulf Coast area, but also including similar soil from South Carolina, southward; (3) the Upper and Central South, including the Piedmont and loessial hill soils east of the Mississippi River; (4) the Delta area, composed of the alluvial soils along the Mississippi River from southern Missouri, southward; and (5) the West, comprising Arkansas and Louisiana (outside the Delta), Kansas, Oklahoma, and Texas. In the West, the potential soybean-growing areas would include alluvial soils, and the Gulf Coast of Louisiana.

POLICY ON EVALUATION AND RELEASE OF STRAINS

Germplasm exchange among breeding programs is the foundation of breeding progress. The purpose of the Uniform Soybean Test is to facilitate the free exchange of germplasm in an effort to maximize genetic diversity and provide well-adapted, stable breeding lines and varieties in the pursuit of breeding progress. Participants are encouraged to exchange germplasm within the legal guidelines pertaining to transgenic strains.

Qualifications for Participation in the Uniform Soybean Tests

Participants must be willing and able to conduct unified tests with conventional strains and strains containing proprietary and/or transgenic traits.

Participants, upon submission of entries, must disclose pedigrees to the Uniform Soybean Test Coordinator for publication with performance data in the Uniform Soybean Test Report.

Participants are individually responsible to ensure that any transgenic entries that they submit are cleared for sale as commodity seed.

Use of Uniform Soybean Test Entries in Soybean Breeding and Research

Seed of Uniform Soybean Test entries is for evaluation in the Uniform Soybean Tests only and may not be distributed to non-participants in these tests without prior approval by the originator of the entry.

Trueness-to-type or purity of seed produced by the entries in the Uniform Soybean Tests cannot be guaranteed by the USDA. Therefore, seed produced by lines in the Uniform Test trials will not be distributed by the USDA to anyone, including the developer, except for trait analyses in connection with the Uniform Test program.

Non-transgenic entries in the Uniform Soybean Test may be used by Uniform Soybean Test participants as parents in biparental crosses or for developing recurrent selection populations, subject to the material transfer requirements of the institution who owns the entry. Transgenic entries may be used in crossing subject to similar rules unless licensing or patenting restrictions regarding ownership of the transgenic trait limit this use.

Uniform Soybean Test participants must obtain prior approval before using any entry, other than their own, as recurrent parent in backcrossing, molecular research, genetic studies, or any other research.

Seed of any entry must not be used for further evaluation without written permission from the originator of the entry and must be discarded at the end of the season, except for crossing purposes, subject to the restrictions outlined in the preceding sections two and three.

All published results from the USDA-ARS Uniform Soybean Tests Southern States may be used as a data base for statistical research and publication related to soybean breeding.

Release of Uniform Soybean Test Entries

Entries in the Uniform Soybean Tests are released according to USDA-ARS and State Agricultural Experiment Station policies.

ACKNOWLEDGEMENTS

The cooperation of the following scientists is gratefully acknowledged for their ratings of the Uniform Test entries: Dr. Zenglu Li, University of Georgia, Athens, Georgia - root-knot nematode; Dr. Prakash Arelli, USDA-ARS, Jackson, Tennessee - soybean cyst nematode; and Gary Shelton and Dr. Shuxian Li, USDA-ARS, Stoneville, MS - stem canker.

The assistance of Gary Shelton in processing and distributing seed, compiling data, running trials at Stoneville, MS and organizing and scoring the stem canker nursery for the Uniform Tests is sincerely appreciated. Gary retired after 30 years of service to the ARS at the end of 2019. We wish him all the best in the next phase of his life.

We would like to acknowledge the support of this project provided by the United Soybean Board.

A special thanks to the following people whose cooperation and participation have helped to make the Uniform Soybean Tests Southern States possible:

J. Koebernick, AU, Auburn, AL
R. Sikkens, AU, Auburn
C. Norris, AU, Belle Mina, AL
M. Pegues, AU, Fairhope, AL

L. Mozzoni, UA, Fayetteville, AR
R. Cobill, UA, Pine Tree, AR
J. Branson, UA, Stuttgart, AR

Z. Li, UG, Athens, GA
E. Baxter, UG, Athens, GA
D. Wood, UG, Athens, GA
D. Mailhot, UGA, Griffin, GA

W. T. Schapaugh, Jr., KSU, Manhattan, KS
C. Stephens, KSU, Manhattan, KS

B. Buckley, LSU, Bossier City, LA

A. M. Gillen, USDA-ARS, Stoneville, MS
W. D. Marlow, USDA-ARS, Stoneville, MS
G. W. Shelton, USDA-ARS, Stoneville, MS

A. Scaboo, MU, Columbia, MO
X. Niu, MU, Columbia, MO
P. Chen, MU, Portageville, MO
M. Clubb, MU, Portageville, MO
M. Crisel, MU, Portageville, MO
S. Smothers, MU Portageville, MO

T. E. Carter, USDA-ARS, Raleigh, NC
R. Mian, USDA-ARS, Raleigh, NC
B. D. Fallen, CU, Florence, SC
R. F. Graham, CU, Florence, SC
M.S. Lennon, CU, Florence, SC
J. McCall, CU, Florence, SC

V. Pantalone, UT, Knoxville, TN
W. Pitt, UT, Knoxville, TN
C. Wyman, UT, Knoxville, TN
D. Walker, UT, Knoxville, TN

P. Arelli, USDA-ARS, Jackson, TN
L. Fritz, USDA-ARS, Jackson, TN
G. Percell, WTES, Jackson, TN

B. Zhang, VPI&SU, Blacksburg, VA
A. Jensen, VPI&SU, Blacksburg, VA
T. Pridgen, VPI&SU, Blacksburg, VA
G. Lillard, NPAREC, Orange, VA
A. Pawlick, TAREC, Suffolk, VA
D. L. Holshouser, TAREC, Suffolk, VA
C. L. Barrack, EVAREC, Warsaw, VA

UNIFORM TEST PARTICIPANTS 2019

Dr. Prakash Arelli
USDA-ARS, Nematology Research
605 Airways Blvd.
Jackson, TN 38301
(731) 425-4741
(731) 425-4760 {Fax}
prakash.arelli@ars.usda.gov

Dr. Blair Buckley
LSU AgCenter
Red River Research Station
P.O. Box 8550
Bossier City, LA 71113
(318) 741-7430 Ext. 1202
(318) 741-7433 {Fax}
BBuckley@agcenter.lsu.edu

Dr. Thomas E. Carter
USDA-ARS, Soybean & Nitrogen Fixation Unit
P.O. Box 7631
Raleigh, NC 27695-7631
(919) 513-1480
(919) 856-4598 {Fax}
thomas.carter@ars.usda.gov

Dr. Pengyin Chen
Delta Center
University of Missouri
Highway T, P. O. Box 160
Portageville, MO 63873
(573) 379-5431
(573) 379-5875 {Fax}
chenpe@missouri.edu

Dr. Ben Fallen
Soybean Breeding & Genetics
Advanced Plant Technology Program
Clemson Pee Dee REC
2200 Pocket Road
Florence, SC 29506
(843) 662-3526
bfallen@clemson.edu

Dr. Anne M. Gillen
USDA-ARS, Crop Genetics Research Unit
141 Experiment Station Road
P. O. Box 345
Stoneville, MS 38776
(662) 686-3127
(662) 686-5218 {Fax}
anne.gillen@ars.usda.gov

Dr. Jenny Koebernick
Dept. of Agronomy and Soils
Auburn University
202 Funchess Hall
Auburn, AL 36849
(334) 844-3982
jenny.koebernick@auburn.edu

Dr. Zenglu Li
Dept. of Agronomy
University of Georgia
3111 Plant Sciences Bldg.
Athens, GA 30602
(706) 542-9805
(706) 542-0914 {Fax}
zli@uga.edu

Dr. Rouf Mian
USDA-ARS, Soybean & Nitrogen Fixation Unit
P.O. Box 7631
Raleigh, NC 27695-7631
(919) 513-1917
rouf.mian@ars.usda.gov

Dr. Leandro Mozzoni
Dept. of Crop, Soil and Environmental Sciences
University of Arkansas
115 Plant Science Building
Fayetteville, AR 72701
(479) 575-7564
(479)575-7465 (Fax)
lmozzon@uark.edu

Dr. Vince Pantalone
Dept. of Plant and Soil Sciences
University of Tennessee
P. O. Box 1071
Knoxville, TN 37901-1071
(865) 974-8801
(865) 974-7997 {Fax}
vpantalo@utk.edu

Dr. Andrew M. Scaboo
Research Assistant Professor
University of Missouri
Division of Plant Sciences
1-31 Agriculture Building
Columbia, MO 65211
(573) 882-3462
(573) 882-1469 {Fax}
scabooa@missouri.edu

Dr. Bill T. Schapaugh, Jr.
Dept. of Agronomy
Kansas State University
2004 Throckmorton Hall
Manhattan, KS 66506-5501
(785) 532-7242
(785) 532-6094 {Fax}
scha0035@ksu.edu

Dr. Rusty Smith
USDA-ARS, Crop Genetics Research Unit
141 Experiment Station Road
P. O. Box 345
Stoneville, MS 38776
(662) 686-5499
(662) 686-5218 {Fax}
rusty.smith@ars.usda.gov

Dr. Bo Zhang
Soybean Breeding Lead
Virginia Tech
Crop, Soil & Environmental Sciences
509 Latham Hall (0404)
Blacksburg, VA 24061
(540) 231-1737
(540) 231-3431 {Fax}
bozhang@vt.edu

STRAIN DESIGNATION

The strains designated by number carry a letter prefix. This letter identifies where each strain was selected:

DA	-	Delta Branch Experiment Station and USDA-ARS, Stoneville, MS
DS	-	Delta Branch Experiment Station and USDA-ARS, Stoneville, MS
G	-	Georgia Agricultural Experiment Station
JTN	-	Tennessee Agricultural Experiment Station, Jackson and USDA-ARS
K	-	Kansas Agricultural Experiment Station
LG	-	Delta Branch Experiment Station and USDA-ARS, Stoneville, MS
LW	-	South Carolina Agricultural Experiment Station
N	-	North Carolina Agricultural Experiment Station and USDA-ARS
NSTPR	-	North Carolina Agricultural Experiment Station and USDA-ARS
NDPJE	-	North Carolina Agricultural Experiment Station and USDA-ARS
R	-	Arkansas Agricultural Experiment Station
Pro5	-	North Carolina Agricultural Experiment Station and USDA-ARS
S	-	Missouri Agricultural Experiment Station
SA	-	Missouri Agricultural Experiment Station
SC	-	South Carolina Agricultural Experiment Station, Clemson
STPR	-	North Carolina Agricultural Experiment Station and USDA-ARS
TN	-	Tennessee Agricultural Experiment Station
TNLR	-	Tennessee Agricultural Experiment Station
UARK	-	Arkansas Agricultural Experiment Station
V	-	Virginia Agricultural Experiment Station, Virginia Tech

UNIFORM SOYBEAN TESTS PARENTAGE INFORMATION DATABASE

Historical Uniform Soybean Test parentage Information can be found at the following:
https://soybase.org/uniformtrial/index.php?page=lines

SOYBEAN NURSERY INFORMATION

A. LOCATION CONTACT AND TESTS- 2019

2019 Locations	Location Contact	IV-S-E*	IV-S-E	IV-S-L	IV-S-L	V-E	V-L	V	VI	VI	VII	VII	VIII	VIII
Belle Mina,AL	Jenny Koebernick		U		U			U						
Tallassee,AL	Jenny Koebernick				U	P	P	U	P	U		U		U
Keiser,AR	Leandro Mozzoni	P	U	P	U	P	P	U						
Kibler,AR	Leandro Mozzoni	P	U	P	U									
Stuttgart,AR	Leandro Mozzoni			P	U	P	P	U						
Athens,GA(A)	Zenglu Li									U	P	U	P	U
Athens,GA(B)	Zenglu Li											U		U
Calhoun,GA	Daniel Mailhot									U		U		
Plains,GA	Zenglu Li								P		P	U	P	U
Tifton,GA	Daniel Mailhot									U		U		U
McCune,KS	W. T. Schapaugh, Jr.			P	U	P	P	U						
Pittsburg,KS	W. T. Schapaugh, Jr.			P	U	P	P	U						
Bossier City,LA	Blair Buckley				U			U		U		U		
Portageville,MO(A)	Pengyin Chen		U		U			U						
Portageville,MO(B)	Pengyin Chen	P	U	P	U	P		U						
Columbia,MO	Andrew Scaboo	P	U											
Stoneville,MS	Anne Gillen	P	U	P	U	P	P	U						
Clayton,NC	Tommy Carter											U	P	U
Kinston,NC	Tommy Carter					P	P		P	U	P	U	P	U
Plymouth,NC	Rouf Mian							U	P		P	U		
Clemson,SC	Ben Fallen								P	U		U		U
Florence,SC	Ben Fallen									U	P	U	P	U
Jackson,TN	Prakash Arelli	P	U	P	U	P		U						
Knoxville,TN	Vincent Pantalone	P	U	P	U	P	P	U						
Springfield,TN	Vincent Pantalone		U		U			U						
Orange,VA	Greg Lillard	P			U			U						
Suffolk,VA	David Holshouser							U						
Warsaw,VA	Bo Zhang				U	P	P	U						
Total Location Planted		8	9	8	15	11	9	17	5	10	5	12	5	9
TOTAL LOCATIONS REPORTING DATA		7	9	7	14	9	8	16	4	9	5	11	5	9

* U = Uniform Test; P = Preliminary Test

B. PLANTING DATES – 2019

Location	PIV-S-E	PIV-S-L	PV-E	PV-L	PVI	PVII	PVIII	UIV-S-E	UIV-S-L	UV	UVI	UVII	UVIII
Belle Mina,AL								23-Apr	24-Apr	14-May			
Tallassee,AL			21-May	21-May	3-Jun				8-May	21-May	3-Jun	17-Jun	21-Jun
Keiser,AR	28-May	NH*	NH	NH				NH	NH	NH			
Kibler,AR	23-Apr	23-Apr						23-Apr	23-Apr				
Stuttgart,AR		NH	NH	NH					NH	NH			
Athens,GA(A)						16-May	16-May					16-May	16-May
Athens,GA(B)												14-Jun	14-Jun
Calhoun,GA											30-Apr	30-Apr	
Plains,GA					22-May	22-May	22-May				22-May	22-May	22-May
Tifton,GA											9-May	9-May	9-May
McCune,KS		NH	NH	NH					NH	NH			
Pittsburg,KS		1-Jul	1-Jul	1-Jul					1-Jul	1-Jul			
Bossier City,LA									1-May	1-May	1-May	1-May	
Portageville,MO(A)								14-May	14-May	14-May			
Portageville,MO(B)	16-May	16-May	16-May					16-May	16-May	16-May			
Columbia,MO	3-Jun							3-Jun					
Stoneville,MS	NH	NH	NH	NH				NH	NH	NH			
Clayton,NC							18-Jun					18-Jun	18-Jun
Kinston,NC			25-Jun	25-Jun	25-Jun	25-Jun	25-Jun				25-Jun	25-Jun	25-Jun
Plymouth,NC					12-Jun	4-Jun				5-May		4-Jun	
Clemson,SC					15-Jun						15-Jun	15-Jun	15-Jun
Florence,SC						21-May	21-May				21-May	21-May	21-May
Jackson,TN	24-May	24-May	22-May					24-May	24-May	22-May			
Knoxville,TN	9-May	9-May	9-May	9-May				9-May	9-May	9-May			
Springfield,TN								21-May	21-May	21-May			
Orange,VA	22-May								22-May	22-May			
Suffolk,VA										17-May			
Warsaw,VA			17-May	17-May					17-May	17-May			

*NH = Not Harvested. Keiser - atrazine carryover damage; Stuttgart - planting error; Stoneville - flooded soon after planting; McCune - excessive rainfall.

C. HARVEST DATES – 2019

Location	PIV-S-E	PIV-S-L	PV-E	PV-L	PVI	PVII	PVIII	UIV-S-E	UIV-S-L	UV	UVI	UVII	UVIII
Belle Mina,AL								10-Sep	20-Sep	1-Oct			
Tallassee,AL			11-Nov	11-Nov	11-Nov				11-Nov	11-Nov	21-Nov	18-Nov	18-Nov
Keiser,AR	4-Nov	NH*	NH	NH				NH	NH	NH			
Kibler,AR	15-Oct	15-Oct						15-Oct	15-Oct				
Stuttgart,AR		NH	NH	NH					NH	NH			
Athens,GA(A)						10-Nov	10-Nov					10-Nov	10-Nov
Athens,GA(B)												10-Nov	10-Nov
Calhoun,GA											24-Oct	19-Nov	
Plains,GA					19-Nov	20-Nov	19-Nov				19-Nov	19-Nov	19-Nov
Tifton,GA											28-May	28-May	28-May
McCune,KS		NH	NH	NH					NH	NH			
Pittsburg,KS		15-Nov	15-Nov	15-Nov					15-Nov	15-Nov			
Bossier City,LA									10-Oct	10-Oct	5-Nov	5-Nov	
Portageville,MO(A)								1-Oct	19-Oct	9-Oct			
Portageville,MO(B)	6-Nov	6-Nov	6-Nov					6-Nov	8-Nov	8-Nov			
Columbia,MO	18-Oct								18-Oct				
Stoneville,MS	NH	NH	NH	NH				NH	NH	NH			
Clayton,NC							29-Nov					6-Dec	29-Nov
Kinston,NC			18-Nov	18-Nov	18-Nov	20-Oct	20-Oct				18-Nov	20-Oct	20-Oct
Plymouth,NC					7-Nov	20-Nov				24-Oct		14-Nov	
Clemson,SC					21-Nov						22-Nov	22-Nov	22-Nov
Florence,SC						4-Nov	5-Nov				25-Oct	1-Nov	5-Nov
Jackson,TN	4-Oct	4-Oct	18-Oct					4-Oct	15-Oct	18-Oct			
Knoxville,TN	30-Sep	4-Oct	25-Oct	29-Oct				30-Sep	4-Oct	29-Oct			
Springfield,TN								24-Oct	24-Oct	24-Oct			
Orange,VA	7-Oct								7-Oct	29-Oct			
Suffolk,VA										11-Nov			
Warsaw,VA			18-Oct	18-Oct					10-Oct	18-Oct			

*NH = Not Harvested. Keiser - atrazine carryover damage; Stuttgart - planting error; Stoneville - flooded soon after planting; McCune - excessive rainfall.

D. AGRONOMIC CHARACTERISTICS OF LOCATIONS – 2019

2019 Location	Soil type	Row Spacing	Planted Length	Harvested Length	Trial Bordered	End Trim-med	# Rows Planted	# Rows Harvested	Prior Crop	Irri-gated
Belle Mina,AL	Decatur silt loan	36	20	20	Yes	No	4	2	Fallow	Yes
Tallassee,AL	Cahaba fine sandy loam	36	20	20	Yes	No	4	2	Fallow	Yes
Keiser,AR	Sharkey silty clay	38	15	15	Yes	No	4	2	Corn	Yes
Kibler,AR	Dardanelle-Roxane fine sandy loam	26	15	15	Yes	No	4	2	.	Yes
Stuttgart,AR	Crowley silt loam	30	15	15	Yes	No	4	2	Rice	Yes
Athens,GA(A)	Wickham sandy loam	30	16	12	Yes	Yes	4	2	Corn/Small Grains	Yes
Athens,GA(B)	Cecil coarse sandy loam	30	16	12	Yes	Yes	4	2	Grain sorghum	Yes
Calhoun,GA	Etowah loam, Wax loam	30	21	18	Yes	Yes	4	2	Small Grains	Yes
Plains,GA	Greenville sandy loam	30	16	12	Yes	Yes	4	2	Cotton	Yes
Tifton,GA	Tifton sandy loam	36	21	18	Yes	Yes	4	2	Cotton	Yes
McCune,KS	Parsons silt loam	30	12	12	Yes	No	4	2	Corn	No
Pittsburg,KS	Parsons silt loam	30	12	12	Yes	No	4	2	Corn	No
Bossier City,LA	Caplis very fine sandy loam	40	28	20	Yes	Yes	4	2	Soybeans	Yes
Portageville,MO(A)	Dundee silt loam	30	12	12	Yes	No	4	2	Soybean	Yes
Portageville,MO(B)	Sharkey clay	30	12	12	Yes	No	4	2	Soybean	Yes
Columbia,MO	Mexico-silt loam	30	12	12	Yes	No	4	2	Corn	Yes
Stoneville,MS	Sharkey clay	26	18.5	16	Yes	Yes	5	3	Soybean	Yes
Clayton,NC	Norfolk sandy loam	38	18	15	Yes	Yes	3	1	Cotton	Yes
Kinston,NC	Stallings loamy sand	38	18	15	Yes	Yes	3	1	Corn	No
Plymouth,NC	Portsmouth silt loam	38	19	15	Yes	Yes	3	1	Corn	No
Clemson,SC	Cartecay fine sandy loam	30	30	22	Yes	Yes	4	2	Corn	No
Florence,SC	Sandy Loam	30	20	18	Yes	Yes	4	2	Corn	No
Jackson,TN	Vicksburg silt loam/ Vicksburg fine sandy loam	30	12	12	Yes	No	4	2	Soybeans	No
Knoxville,TN	Sequatchie silt loam	30	20	16	Yes	Yes	4	2	Corn	No
Springfield,TN	Staser silt loam	30	25	16	Yes	Yes	4	2	N/A	Yes
Orange,VA	Davidson	22	16	12	Yes	Yes	3	3	Fallow/ Grass	No
Suffolk,VA	Dragston Fine Sandy Loam	15	24	17	Yes	Yes	6	4	Corn	No
Warsaw,VA	Kempsville loam	30	18	12	Yes	Yes	4	2	Small Grains	No

E. WEATHER STATION INFORMATION

Location	Weather Station URL	Notes
Belle Mina, AL	national weather sevice	
Fairhope, AL	national weather sevice	
Tallassee, AL(A)	not reported	
Tallassee, AL(B)	not reported	
Pine Tree, AR	N/A	
Rohwer, AR	http://www.aragriculture.org/weather/default.asp	
Georgetown, DE	http://www.rec.udel.edu/TopLevel/Weather.htm	
Athens, GA (A)	http://www.griffin.uga.edu/aemn/cgi-bin/AEMN.pl?site=GAWP	
Athens, GA (B)	http://www.griffin.uga.edu/aemn/cgi-bin/AEMN.pl?site=GAWP	
Calhoun, GA	http://www.griffin.uga.edu/aemn/cgi-bin/AEMN.pl?site=GACA	
Plains, GA	http://www.griffin.uga.edu/aemn/cgi-bin/AEMN.pl?site=GAPL	
Tifton, GA	http://www.griffin.uga.edu/aemn/cgi-bin/AEMN.pl?site=GATI	
Ullin, IL	none	
McCune, KS	http://www.oznet.ksu.edu/wdl/	
Pittsburg, KS	http://www.oznet.ksu.edu/wdl/	
Princeton, KY	http://www.nass.usda.gov/Statistics_by_State/Kentucky/Publications/Agri-News/oct226.pdf	
Alexandria, LA	www.lsuagcenter.com/weather	
Bossier City, LA	www.lsuagcenter.com/weather/tabledata.asp	
Queenstown, MD	none	
Portageville, MO(A)	http://agebb.missouri.edu/weather/realtime/portageville.asp	
Portageville, MO(B)	http://agebb.missouri.edu/weather/realtime/portageville.asp	
Starkville, MS	http://www.deltaweather.msstate.edu/	
Stoneville, MS	http://www.deltaweather.msstate.edu/	Stoneville is at the end of the list of weather stations.
Jackson Springs, NC	http://www.nc-climate.ncsu.edu/cronos/index.php?station=JACK&temporal=daily	Sandhills Station, NC (Jackson Springs)
Kinston, NC	http://www.nc-climate.ncsu.edu/cronos/index.php?station=314689&temporal=D	Kinston, NC
Plymouth, NC(A)	http://www.nc-climate.ncsu.edu/cronos/?station=PLYM	Tidewater Research Station
Plymouth, NC(B)	http://www.nc-climate.ncsu.edu/cronos/?station=PLYM	Tidewater Research Station
Bixby, OK	www.mesonet.ou.edu	
Stillwater, OK	www.mesonet.ou.edu	
Blackville, SC(A)	http://www.ncdc.noaa.gov/crn/	
Blackville, SC(B)	http://www.ncdc.noaa.gov/crn/	
Clemson, SC	http://www.wunderground.com/weatherstation/WXDailyHistory.asp?ID=KSCCLEMS1&graphspan=month&month=6&day=1&year=2007	
Florence, SC	not reported	
Jackson, TN	None on the web	
Knoxville, TN	www.ncdc.noaa.gov	Look on left menu for "Find a Station" for Knoxville Experiment Station
Springfield, TN	not reported	
Bardwell, TX	not reported	
Cooper, TX	not reported	
Orange, VA	not reported	
Petersburg, VA	http://www.accuweather.com/forecast-climo.asp?partner=30371&traveler=0&zipChg=1&zipcode=23841&metric=0	This only has the past two months of data
Suffolk, VA	not reported	
Warsaw, VA	http://www.ext.vt.edu/cgi-bin/WebObjects/Mesonet.woa/wa/lookupCoordinate?472,102	EVAREC is location name

METHODS

CULTURAL PRACTICES

Please see Soybean Nursery Information – Tables A, B, C, D, and E for details on locations including contacts, row spacing, plot dimensions, end trimming, planting dates, harvest dates, crop rotation, and weather station URLs. Cultural practices, including fertilization, chemical application and irrigation practices, varied at each location to conform to the normal practices of each collaborator. The uniform tests were planted with three (3) replications and the preliminary tests were planted with two (2) replications except three (3) replications were planted for PVII and PVIII.

AGRONOMIC CHARACTERISTICS

Height. Height (HT) in a plot was measured as the average length of plants in inches from the ground to the top extremity at maturity.

Lodging. Lodging (LOD) notes were recorded on a scale of 1 to 5 according to the following criteria:

1 - almost all plants erect
2 - either all plants leaning slightly, or a few plants down
3 - either all plants leaning moderately, or 25 to 50% of the plants down
4 - either all plants leaning considerably, or 50 to 80% of the plants down
5 - all plants down

Maturity. Maturity (MAT) was recorded as the date when 95% of the pods had reached mature pod color (Fehr and Caviness, 1977). Maturity in all summaries is expressed as days earlier (-) or later (+) than the reference variety. Reference varieties used in the different maturity groups were as follows: UIV-S (E) and PIV-S (E) - AG 4232; UIV-S (L) and PIV-S (L) - Ellis; UV and PV-E – Ellis; PV-L – UA5612; UVI and PVI – AG6534; UVII and PVII – AGS-738RR; and UVIII and PVIII – AGS828RR.

Yield. Please see Agronomic Characteristics of Locations for information on end trimming and which rows were harvested for yield data at each location. Actual seed weights were recorded after the seed of the strains had reached uniform moisture content or seed weight at harvest was adjusted to 13% moisture content. Seed weights were converted to bushels per acre (60 lbs/bu.) by using the appropriate conversion factor for each location with respect to harvested plot size.

Seed Quality. Seed quality was rated from 1 to 5 according to the following scale:

1 - very good; 2 - good; 3 - fair; 4 - poor; 5 - very poor

Factors considered in estimating seed quality were development of seed, wrinkling damage, and brightness. While the seed quality score indicates relative appearance of seed for strains at one location, considerable differences can exist among factors responsible for the poorer grades at different locations. Seed size for each strain was determined from a composite sample from all replications at a location. Seed size is reported as grams per 100 seed.

SEED COMPOSITION

Oil and Protein. Oil and protein (PRO) percentages were determined from representative locations of the uniform and preliminary tests. A 50 ml composite sample all replications of a strain in trial was sent to the USDA-ARS, National Center for Agricultural Utilization Research, Bio-Oils Research Unit at Peoria, Illinois for analysis. One sample of 20ml of whole seed was analyzed for protein and oil composition by near infrared transmittance analysis (NIT) using an IM 9500 Grain Analyzer (Perten Instruments AB, Sweden). Analysis of the seed was conducted on an 'as is' basis and then mathematically converted to a 13% moisture basis (13%) beginning in 2015. Prior to 2015 protein and oil percentages were reported on a dry weight basis (DWB). The conversion factor is 1.1494252 to convert from 13% to DW. The conversion factor is 0.87 to convert DW to 13%.

Validation of the protein and oil percentages are done with combustion method and pulsed Nuclear Magnetic Resonance and AOCS method Ac 2-41 respectively. Lines that were expected to have high oleic (HO) acid percentage, over 75% oleic fatty acid, were analyzed using a CHN 628 (Leco, MI, USA) combustion analysis to verify the protein content; random samples of non-HO beans were also analyzed for comparison. Seed samples are ground in a coffee mill then dried at 85 °C for one hour then analyzed with data compared on a DWB. Pulsed Nuclear Magnetic Resonance, Bruker mq20 (Bruker Corporation, The Woodlands, TX) calibrated to report grams of oil in known grams of seed weight while the AOCS method obtains the moisture content for a DWB oil percentage. Protein values on a 13% moisture basis based on this method are reported only for lines designated at having high oleic acid in the parentage table.

Amino Acids. Seed amino acid percentages were determined for strains known to have modified amino acid percentages and normal checks from representative locations of the uniform and preliminary tests. A composite sample from all replications of a strain in a trial was sent to the University of Missouri Experiment Station Chemical Laboratories (ESCL) for analysis of crude protein and amino acids using the "Cysteine, Methionine, Lysine +9" analysis.

Fatty Acids. Fatty acid analysis of strains known to have oleic acid levels over 75% and normal checks were determined from representative locations of the uniform and preliminary tests. Percent palmitic, stearic, oleic, linoleic and linolenic acid content in the oil were determined. A 30-gram composite seed sample of all replications of a strain in a trial was sent to Dr. Pengyin Chen, University of Missouri, Delta Center, Portageville, MO for analysis.

Mr. Stewart Selves at University of Missouri – Delta Center conducted the fatty acid analysis using a five-seed sample placed in an envelope and manually crushed with a hammer. Crushed seeds were extracted in 5mL chloroform:hexane:methanol (8:5:2, v/v/v) overnight. Derivatization was done by transferring 100 µL of extract to vial and adding 75 µL of methylating reagent (0.25 M methanolic sodium methoxide:petroleum ether:ethyl ether, 1:5:2 v/v/v). Hexane was added to dilute samples to approximately 1 mL. An Agilent (Palo Alto, CA) series 7890 capillary gas chromatograph fitted with a flame ionization detector (275°C) was used with an AT-Silar capillary column (Alltech Associates, Deerfield, IL). Standard fatty acid mixtures (Animal and Vegetable Oil Reference Mixture 6, AOACS) were used as calibration reference standards.

Oligosaccharides (Sugars). Seed sugar percentages were determined for strains known to have a modified sugar profile and normal checks from representative locations of the uniform and preliminary tests. Composite seed samples of all replications of a strain in a trial were sent to Dr. Bo Zhang, Virginia Polytechnic Institute and State University for analysis. A 0.1 gram of ground sample was used to extract sucrose, raffinose and stachyose and analyzed by High Performance Liquid Chromatography (HPLC). Four calibration standards are used: Standard Level 1: 75,7.5,18.75 ug/mL for sucrose, raffinose and stachyose, Standard Level 2: 150, 15, and 37.5 ug/mL for sucrose, raffinose and stachyose, Standard Level 3: 500, 50 and 125 ug/mL for sucrose, raffinose and stachyose and Standard Level 4: 1000, 100, and 250 ug/mL for sucrose, raffinose and stachyose. A reference standard is used as well: 4.90, 0.70 and 1.40 mg/mL of sucrose, raffinose and stachyose. Data is converted to percentage of sugars.

PEST ASSESSMENT

Root-knot Nematode. Screenings of strains of UIV-S - UVIII for reaction to southern root-knot nematode (*Meloidogyne incognita* (Kofoid and White) Chitwood) (SRK) and to peanut root-knot nematode (*Meloidogyne arenaria* (Neal) Chitwood) (PRK) were conducted in a greenhouse at the University of Georgia.

Three seeds of each genotype were planted in Ray Leach Cone-tainers (20.6 cm long) filled with fumigated sandy loam soil to within 5 cm of the top and then covered with 2.5 cm of fumigated sand. Ten Cone-tainers each of a susceptible and resistant standard cultivar were included in each test. Forty-nine Cone-tainers were placed in a RL-98 tray, filling every other row of the tray. The trays (45) were placed on a greenhouse bench under supplemental light provided by 400-watt metal halide lamps and under an automatic irrigation system. Seven to 10 days after planting, plants were thinned to one seedling per Cone-tainer and inoculated with 3000 root-knot nematode eggs collected with 0.5% NaOCL (10% Clorox). The inoculum (3-5 ml depending on egg concentration) was placed with a digital dispensing pump in a soil at a depth of 2-3 cm. Plants were watered manually for 1-2 days following inoculation before turning on the automatic irrigation system. All plants were fertilized weekly with 20-20-20 (N = 20%, P = 8.7%, K = 16.6%) fertilizer solution.

Thirty days after inoculation, roots of two of the standard check plants were examined for galls to assess whether to begin the process of evaluating the entire test. For evaluation, shoots were excised and root systems removed from the Cone-tainers and washed free of soil. For screening genotypes in the Uniform Tests, the total number of galls per root system was counted. The number of galls on the remainder of the susceptible and resistant check plants was used to develop a gall index for evaluating the genotypes. The gall indexes (based on the number of galls/plant) were as follows: *Meloidogyne incognita* (SRK): 1 = 0-10, 2 = 11-20, 3 = 21-30, 4 = 31-40, and 5 = 41+ galls; *M. arenaria* (PRK): 1 = 0-30, 2 = 31-60, 3 = 61-90, 4 = 91-120, and 5 = 121+ galls.

Soybean Cyst Nematode (SCN). Screening for plant reaction to soybean cyst nematode (*Heterodera glycines* Ichinohe) (SCN) populations was conducted in the greenhouse at the ARS-Crop Genetics Research Unit in Jackson, TN in 2019. Screening for SCN was done with HG Type 1.2.5.7 (race 2), HG Type 5.7 (race 3), and HG Type 2.5.7 (race 5). One seed of each soybean entry (UIV-S-E - UVIII and PIV-S-E - PVIII) was planted in sterile soil mix with 7 replications per each SCN population. At the time of planting, approximately 2500 eggs of the population being evaluated were added to each pot. Approximately four weeks after planting, plants were rated based on the number of cysts on the roots. The ratings were as follows: 1 = 0-5 cysts on the root, 2=6-10 cysts on the root, 3=11-20 cysts on the root, 4=21-40 cysts on the root, and 5=> 40 cysts on the root. The 7 replications were averaged and if there were less than 4 plants to rate, the screening was repeated and the data was not shown if there were less than 4 plants for the rating. The mean rating = (rating category x number of plants receiving rating)/total number of plants in that comparison.

In 2019 the HG Types of the populations were as follows: HG Type 1.2.5.7 (race 2), HG Type 5.7 (race 3), and HG Type 2.5.7 (race 5). 5601T was used as the standard susceptible. The standard index lines were included in every test to confirm characterization. For race 2, 5601T had an average of 128 cysts per test. The female index for the cultures were as follows: Pickett FI 42(%), PI 548402 FI 13(%), PI 88788 FI 80(%), PI 90763 FI 0(%), PI 437654 FI 0(%), PI 209332 FI 100(%), PI 89772 FI 0(%), and PI 548316 FI 46(%). For race 3, 5601T had an average of 132 cysts per test. The female index for the cultures were as follows: Pickett FI 0(%), PI 548402 FI 1(%), PI 88788 FI 6(%), PI 90763 FI 0(%), PI 437654 FI 0(%), PI 209332 FI 17(%), PI 89772 FI 1(%), and PI 548316 FI 20(%). For race 5, 5601T had an average of 227 cysts per test. The female index for the cultures were as follows: Pickett FI 16(%), PI 548402 FI 2(%), PI 88788 FI 29(%), PI 90763 FI 0(%), PI 437654 FI 0(%), PI 209332 FI 55(%), PI 89772 FI 0(%), and PI 548316 FI 18(%).

Stem Canker (SC). Soybean strains from all tests were evaluated at the Delta Research and Extension Center, Stoneville, Mississippi for their reaction to *Diaporthe aspalathi* E. Jansen, Castl. & Crous (Syn D. *phaseolorum* var *meridionalis*) (SC), the fungus that causes southern stem canker. Strains were planted in non-replicated single-row plots 1.8 m long. Inoculum was produced by aseptically culturing isolates. Autoclaved, flat toothpicks containing a single isolate from Mississippi known as LiDA18-2 (isolated in 2018 from Stoneville, MS)were provided by Dr. Shuxian Li, USDA-ARS. Ten plants per plot were inoculated by forcing a toothpick through the stem in the upper one-third of a young plant. Lesion development on the stem at the inoculation site was observed and noted every 2 weeks beginning with initial signs of disease on the susceptible checks. Final scores were determined when the susceptible checks had been killed by the disease, or the plot was near maturity. Plants having any external lesion were considered as susceptible. The final score was based on the overall appearance of all inoculated plants in a plot.

A rating of R = resistant, MR = moderately resistant, SS = segregating or somewhat susceptible, MS = moderately susceptible or S = susceptible was applied to each strain and derived based on a comparison of the final score with the disease level of the susceptible checks. Leaf symptoms were based on the presence or absence of interveinal chlorosis as observed on inoculated plants. The presence of main stem lesions was observed at or around the point of inoculation based on the presence of a toothpick. Individual soybean strains were rated as follows:

1. No plants exhibited external lesions, no leaf damage and no dead plants (R).
2. No plants exhibited external lesions. A few plants showed minor leaf symptoms (MR).
3. Segregating for susceptible and resistant plants based on stem lesion; **or** minor external lesions and minor leaf symptoms, but no dead plants (SS).
4. All plants exhibited external lesions, all plant have leaf symptoms, some plants are not dead (MS).
5. All plants exhibited external lesion and all plants dead (S).

The score for susceptible checks AG4403 and GoSoy 54G16, and resistant checks Ellis and AG4632 were 5, 5, 1 and 2, respectively.

Sudden Death Syndrome (SDS). SDS, which is caused by the fungus *Fusarium virguliforme*. SDS screening was discontinued in 2017 due to a lack of funding.

STATISTICAL ANALYSES

Yield, maturity, height, lodging and quality data for each test were analyzed by location by analysis of variance using a mixed model (Proc Mixed in SAS) with variety as the fixed effect and replication as random. Coefficient of variation (CV) and LSD ($\alpha = 0.05$) were calculated from the Proc Mixed output for yield. LSmeans are presented when multiple replications of data were available. Any location that does not have at least two replications of yield data is not included in the yield analysis. In the cases when only I replication of data was provided for variables other than yield, the actual values for that replication were presented.

Yield, maturity, height, lodging and quality for each test were analyzed by area for the uniform tests by analysis of variance using a mixed model (Proc Mixed in SAS) with variety as a fixed effect and location replication(location) location*variety; as random effects. Coefficient of variation (CV) and LSD ($\alpha = 0.05$) were calculated from the Proc Mixed output. The absolute value of CV is presented when a negative CV is produced. The location means are presented for areas that only have data from one location. Yield data from locations with a yield CV of over 15 were omitted from area means.

Yield, maturity, height, lodging and quality for each test were analyzed over all locations for the uniform tests and the preliminary tests by analysis of variance using a mixed model (Proc Mixed in SAS) with variety as a fixed effect and location replication(location) location*variety as random effects. Coefficient of variation (CV) and LSD ($\alpha =$

0.05) were calculated from the Proc Mixed output. **Yield data from locations with a yield CV of over 15 were omitted from yield test means and yield ranks.**

The protein and oil data for a variety/strain at a location is the NIR analysis results from one composite sample of all replications for each entry at the location. Size data is collected either for all replications, or as a composite sample. Arithmetic means are presented for composite samples and LSmeans are presented for replicated data. Protein, oil and size were analyzed by test by analysis of variance using a mixed model (Proc Mixed in SAS) with variety as a fixed effect and location; as a random effect. Coefficient of variation (CV) and average LSD ($\alpha = 0.05$) were calculated from the Proc Mixed output. LSmeans are presented for the test means.

The Rank column in the general summary tables indicated the relative ranking of the yield based on the average performance of a line across locations. Locations with a high yield CV value are not included in Rank calculations.

The Average Rank column in the general summary tables indicates the yield rank of a line based on the average of a line's rank at each individual location. Locations with a high yield CV value are not included in Average Rank calculations.

When a 2-year mean is missing from the general summary table for a Uniform Test, the strain/variety was not in the test for the prior year. In this case the 3-year mean is the average of two years.

TABLE 1 - PARENTAGE OF ENTRIES
UNIFORM GROUP IV-S-EARLY 2019

Ent	Strain/Variety	Parentage	Source	Fn	Trans-genic†	Special Traits‡
1	AG 4135	Commercial check	Commercial		RR1	
2	LD06-7620	IA3023 x LD00-3309	Commercial		Conv	
3	AG 43X7	Commercial check	Commercial		RRX	
4	AG 39X7	Commercial check	Commercial		RRX	
5	DS31-243	LG04-1459 x (DT97-4290(2) x PI587982A)	Rusty Smith	F5	Conv	High germinability
6	LG11-8169-007F	LG06-2354 x LG05-4354	Gillen		Conv	Diversity
7	S15-10879C	S09-13635 x S11-17025	Chen		Conv	Oil, Stem Canker
8	S15-3847RY	S05-11400 x S10-6401	Chen		RR2	SCN-3
9	S15-5904RY	S09-9943 x S11-9618RR	Chen		RR2	Stem Canker
10	S16-14730C	S08-17361 x K10-8556	Chen		Conv	
11	S16-5540R	S11-16653 x S11-20337RR1	Chen		RR1	Excluder
12	V13-0113	V02-8659 x Schillinger 495	Zhang	F4	RR1	
13	V14-1219	B05-8046 x S04-12996	Zhang	F4	Conv	
14	V14-1235	B05-8046 x S04-12996	Zhang	F4	Conv	

†Conv= Conventional(non-transgenic), LL= Liberty Link®, RR1= Roundup Ready®, and RR2=Roundup Ready 2 Yield®
RRX= Roundup Ready 2 Xtend®
‡AA= modified amino acids, DNC= Do not cross with this, FLS= Frogeye leaf spot resistance, LJ= Long juvenile,
LN= low linolenic acid, LP= low phytate, HO= high olelic acid, HOLN= high oleic acid/low linolenic acid,
SCN= Soybean cyst nematode resistance, SR= Soybean rust resistance,
and STS= sulfonylurea tolerant

TABLE 2 - GENERAL SUMMARY OF PERFORMANCE
UNIFORM TEST IV-S-EARLY 2019

STRAIN/ VARIETY	RANK	AVG. RANK	YIELD† 2019	YIELD† 18-19	YIELD† 17-19	PROTEIN‡ 2019	PROTEIN‡ 18-19	PROTEIN‡ 17-19	OIL‡ 2019	OIL‡ 18-19	OIL‡ 17-19
AG 4135	5	6	56.8	60.7	62.0	35.1	34.5	34.7	20.0	20.4	20.3
LD06-7620 §	.	.	.	47.8	51.8	.	36.6	36.3	.	20.2	19.8
AG 43X7 §	.	.	.	72.5	.	.	33.6	.	.	20.2	.
AG 39X7	10	7	52.7	.	.	34.9	.	.	19.6	.	.
DS31-243	11	9	50.9	53.3	.	36.1	35.4	.	19.0	19.5	.
LG11-8169-007F	12	12	37.2	49.2	.	35.6	35.7	.	19.3	19.5	.
S15-10879C	8	7	54.7	.	.	36.1	.	.	18.0	.	.
S15-3847RY	6	6	55.5	.	.	34.3	.	.	19.8	.	.
S15-5904RY	2	4	60.8	.	.	35.8	.	.	19.9	.	.
S16-14730C	4	5	59.5	.	.	35.1	.	.	19.4	.	.
S16-5540R	1	2	65.8	.	.	35.8	.	.	19.4	.	.
V13-0113	7	8	55.4	.	.	37.2	.	.	18.8	.	.
V14-1219	3	5	59.5	.	.	34.9	.	.	19.9	.	.
V14-1235	9	7	53.0	.	.	32.7	.	.	20.8	.	.
Mean	.	.	55.1	.	.	35.3	.	.	19.5	.	.
LSD(0.05)	.	.	6.9	.	.	1.0	.	.	0.5	.	.
CV(%)	.	.	13.5	.	.	2.8	.	.	2.3	.	.

† Data not included in mear 2019 - Belle Mina,AL
2018 - Portageville,MO(A) and Springfield,TN
2017 - Not applicable

‡ Protein percentage and oil percentage reported on a 13% moisture basis beginning in 2015.

§ Data from these checks in 2019 were omitted due to poor seed quality. The 18-19 means are actually the 2018 mean and the 17-19 means are actually the means of 2017 and 2018.

TABLE 3 - GENERAL SUMMARY OF PERFORMANCE -Part 2
UNIFORM TEST IV-S-EARLY 2019

STRAIN/ VARIETY	MEAL† PRO %	MAT INDEX	LOD	HT	SEED QUALITY	SEED SIZE	FL. COLOR	PUB. COLOR	POD COLOR
AG 4135	47.7	0	2	30	2.6	14.6	W	G	Br
LD06-7620	.	.	.	.	.	.	P	G	Br
AG 43X7	.	.	.	.	.	.			
AG 39X7	47.3	-2	2	30	2.4	14.6			
DS31-243	48.3	0	2	32	2.2	12.8	W	G	Br
LG11-8169-007F	48.1	2	2	25	2.1	13.6	P	T	Br
S15-10879C	48.0	1	2	30	2.4	13.2	W	G	Br
S15-3847RY	46.5	6	2	34	2.0	12.3	W	G	Br
S15-5904RY	48.4	6	2	34	2.2	14.2	W	G	T
S16-14730C	47.4	6	2	32	2.0	14.1	P	T	T
S16-5540R	48.4	9	2	31	2.5	13.9	W	T	T
V13-0113	49.9	5	2	35	2.6	13.2	P	T	
V14-1219	47.3	2	2	32	2.1	11.7	P	T	
V14-1235	44.8	0	2	30	2.2	11	P	T	
Mean	47.7	3	2	31	2.3	13.3			
LSD(0.05)	1.2	2	1	2	0.6	0.9			
CV(%)	2.5	83	29	11	26.0	7.4			

† Estimated meal protein content was added to the annual report in 2018.

TABLE 4 - GENERAL SUMMARY OF PEST REACTION
UNIFORM TEST IV-S-EARLY 2019

STRAIN/ VARIETY	SCN Cyst Score (1-5 Scale)†			PRK	SRK	SC	SC
	Race 2	Race 3	Race 5	GA	GA	RATING	SCORE
AG 4135	2	2	4	3.3	5.0	MR	2.0
LD06-7620	.	.	.	.	.	SS	3.0
AG 43X7	1	4	4	2.0	4.8	R	1.0
AG 39X7	2	2	3	3.8	5.0	SS	3.0
DS31-243	2	3	3	2.5	4.5	R	1.0
LG11-8169-007F	1	3	2	4.5	5.0	R	1.0
S15-10879C	1	1	1	2.5	3.0	S	5.0
S15-3847RY	3	2	4	5.0	4.8	R	1.0
S15-5904RY	2	3	4	3.3	3.8	R	1.0
S16-14730C	3	1	3	2.5	2.3	R	1.0
S16-5540R	1	1	1	1.0	1.3	SS	3.0
V13-0113	3	3	4	3.0	4.8	R	1.0
V14-1219	2	4	2	3.5	5.0	R	1.0
V14-1235	2	4	4	4.3	3.5	MR	2.0
Mean	.	.	.	3.2	4.0		.
LSD (0.05):	.	.	.	0.4	0.4		.
CV (%)	.	.	.	18.0	14.0		.

†The race 2, 3, and 5 SCN populations used in these tests were typed as HG (Heterodera glycines) Type 1.2.5.7, HG Type 5.7, and HG Type 2.5.7, respectively.

TABLE 5 - SEED YIELD (BUSHELS PER ACRE)
UNIFORM TEST IV-S-EARLY 2019 †

STRAIN/ VARIETY	Belle Mina, AL	Columbia, MO	Jackson, TN	Kibler, AR	Knoxville, TN	Portageville, MO(A)	Portageville, MO(B)	Springfield, TN	Test Mean
AG 4135	33.6	92.3	71.4	43.9	72.6	39.2	34.2	44.2	56.8
LD06-7620	.	.	.	.	.	.	.	.	.
AG 43X7	.	.	.	.	.	.	.	.	.
AG 39X7	18.3	82.0	67.6	39.0	61.8	41.6	43.8	33.3	52.7
DS31-243	23.0	77.6	54.1	47.7	73.6	39.6	31.0	32.5	50.9
LG11-8169-007F	18.5	68.8	58.0		55.0	21.3	6.3	10.4	37.2
S15-10879C	13.7	74.6	63.6	61.1	69.8	40.5	33.8	39.3	54.7
S15-3847RY	28.2	73.7	66.0	52.9	76.9	44.3	42.3	31.1	55.5
S15-5904RY	31.9	78.1	67.6	66.8	87.8	45.8	37.4	41.8	60.8
S16-14730C	35.3	80.6	62.5	68.7	85.7	44.2	36.7	38.1	59.5
S16-5540R	25.3		69.5	68.0	85.3	44.8	52.9	50.6	65.8
V13-0113	35.2	79.6	58.9	61.4	72.9	38.2	31.0	46.4	55.4
V14-1219	34.6	80.4	61.2	66.0	74.9	52.8	33.8	47.6	59.5
V14-1235	25.2	82.0	59.6	47.3	66.9	46.9	32.9	35.1	53.0
Mean	26.9	79.1	63.3	56.6	73.6	41.6	34.7	37.5	55.1
LSD(0.05)	10.3	8.9	4.2	8.6	11.6	5.9	7.8	9.6	6.9
CV(%)	22.8	6.6	3.9	8.4	9.3	8.3	13.2	13.4	13.5

†Data not included in the mean: Belle Mina,AL.

TABLE 6 - RELATIVE MATURITY (DAYS EARLIER (-) OR LATER (+) THAN ENTRY 1)
UNIFORM GROUP IV-S-EARLY 2019

STRAIN/ VARIETY	Belle Mina, AL	Columbia, MO	Jackson, TN	Kibler, AR	Knoxville, TN	Portageville, MO(A)	Portageville, MO(B)	Springfield, TN	Test Mean
AG 4135	8/23	10/4	9/17	9/24	9/19	9/16	9/29	9/17	9/18
LD06-7620	.	.	.	.	.	.	.	.	.
AG 43X7	.	.	.	.	.	.	.	.	.
AG 39X7	-3	-2	-3	0	-6	-1	-1	1	-2
DS31-243	-1	-2	1	1	-1	3	-1	0	0
LG11-8169-007F	0	2	4	-1	1	4	0	3	2
S15-10879C	0	1	-1	2	0	1	2	1	1
S15-3847RY	9	8	6	3	5	7	5	5	6
S15-5904RY	8	5	8	9	5	6	5	5	6
S16-14730C	9	5	6	6	4	7	6	4	6
S16-5540R	15	14	10	4	6	6	9	6	9
V13-0113	5	6	8	3	1	8	7	3	5
V14-1219	0	0	2	3	0	7	2	1	2
V14-1235	0	-1	1	-1	-4	5	1	-1	0
Mean	4	3	4	2	1	4	3	2	3
LSD(0.05)	4	2	2	3	3	3	3	2	2
CV(%)	62	33	36	76	158	34	57	58	83

TABLE 7 - PLANT HEIGHT (INCHES)
UNIFORM GROUP IV-S-EARLY 2019

STRAIN/ VARIETY	Belle Mina, AL	Columbia, MO	Jackson, TN	Kibler, AR	Knoxville, TN	Portageville, MO(A)	Portageville, MO(B)	Springfield, TN	Test Mean
AG 4135	25	37	38	32	34	30	16	26	30
LD06-7620	.	.	.	.	.	.	.	.	.
AG 43X7	.	.	.	.	.	.	.	.	.
AG 39X7	21	34	40	31	33	34	25	25	30
DS31-243	24	40	44	37	37	27	21	27	32
LG11-8169-007F	21	33	35	26	27	24	14	23	26
S15-10879C	23	37	40	30	34	29	23	27	30
S15-3847RY	31	42	46	33	40	33	21	27	34
S15-5904RY	29	41	45	34	39	32	20	30	34
S16-14730C	30	37	40	34	34	33	23	26	32
S16-5540R	29	42	35	30	36	29	23	28	31
V13-0113	28	45	47	36	41	28	19	34	35
V14-1219	25	37	44	35	34	34	19	30	32
V14-1235	23	37	41	30	35	26	21	27	30
Mean	26	38	41	32	35	30	21	28	31
LSD(0.05)	7	3	4	5	5	6	5	3	3
CV(%)	15	5	6	9	8	12	14	7	11

TABLE 8 - PLANT LODGING (1-5)
UNIFORM GROUP IV-S-EARLY 2019

STRAIN/ VARIETY	Belle Mina, AL	Columbia, MO	Jackson, TN	Kibler, AR	Knoxville, TN	Portageville, MO(A)	Portageville, MO(B)	Springfield, TN	Test Mean
AG 4135	1.0	1.8	1.7	1.0	2.2	2.0	1.0	1.0	1.5
LD06-7620	.	.	.	.	.	.	.	.	.
AG 43X7	.	.	.	.	.	.	.	.	.
AG 39X7	1.0	1.5	2.0	1.0	2.0	3.0	1.0	1.0	1.6
DS31-243	1.0	2.7	3.3	2.0	2.7	3.5	1.0	1.0	2.1
LG11-8169-007F	1.0	2.0	2.7	1.0	2.3	2.5	1.0	1.0	1.7
S15-10879C	1.0	1.8	2.0	1.0	1.8	3.0	1.0	1.0	1.6
S15-3847RY	1.0	4.3	3.0	1.0	2.3	3.0	1.0	1.0	2.1
S15-5904RY	1.0	3.3	2.0	1.0	2.8	2.0	1.0	1.0	1.8
S16-14730C	1.0	2.0	2.0	1.7	1.7	2.5	1.0	1.0	1.6
S16-5540R	1.0	3.3	2.3	1.0	2.8	2.5	1.0	1.0	1.9
V13-0113	1.0	4.8	3.3	1.3	3.2	3.0	1.0	1.0	2.3
V14-1219	1.0	1.5	2.7	1.0	1.8	2.5	1.0	1.0	1.6
V14-1235	1.0	2.2	3.0	1.0	2.0	2.5	1.0	1.0	1.7
Mean	1.0	2.6	2.5	1.2	2.3	2.7	1.0	1.0	1.8
LSD(0.05)		0.4	0.7	0.6	0.6	0.6			0.5
CV(%)	0.0	9.8	16.3	31.9	16.0	12.2	0.0	0.0	29.0

TABLE 9 - SEED QUALITY (1-5)
UNIFORM GROUP IV-S-EARLY 2019

STRAIN/ VARIETY	Belle Mina, AL	Columbia, MO	Jackson, TN	Kibler, AR	Knoxville, TN	Portageville, MO(A)	Portageville, MO(B)	Springfield, TN	Test Mean
AG 4135	.	1.0	2.7	3.3	2.0	3.0	3.3	3.0	2.6
LD06-7620	.	.	.	.	.	.	.	.	.
AG 43X7	.	.	.	.	.	.	.	.	.
AG 39X7	.	1.0	2.0	4.0	3.0	2.0	3.0	2.0	2.4
DS31-243	.	1.5	2.0	2.3	2.0	2.0	2.7	3.0	2.2
LG11-8169-007F	.	1.5	2.3	2.7	1.0	2.0	3.0	2.0	2.1
S15-10879C	.	1.5	2.0	3.0	2.0	3.0	3.0	2.0	2.4
S15-3847RY	.	1.5	2.0	1.3	2.0	2.0	3.0	2.0	2.0
S15-5904RY	.	1.0	2.0	4.0	1.0	2.0	3.3	2.0	2.2
S16-14730C	.	1.5	2.0	3.7	1.0	2.0	3.0	1.0	2.0
S16-5540R	.	4.0	2.0	3.7	1.0	2.0	3.0	2.0	2.5
V13-0113	.	1.0	2.0	4.0	2.0	3.0	3.3	3.0	2.6
V14-1219	.	1.0	2.3	2.3	2.0	2.0	3.0	2.0	2.1
V14-1235	.	1.5	2.0	3.0	2.0	2.0	3.0	2.0	2.2
Mean	.	1.5	2.1	3.1	1.8	2.3	3.1	2.2	2.3
LSD(0.05)	.	.	0.5	0.9	.	.	0.6	.	0.6
CV(%)	.	.	13.7	16.5	0.0	0.0	10.9	0.0	26.5

TABLE 10 - SEED SIZE (GRAMS PER 100 SEED)
UNIFORM GROUP IV-S-EARLY 2019

STRAIN/ VARIETY	*Belle Mina, AL*	*Columbia, MO*	*Jackson, TN*	*Kibler, AR*	*Knoxville, TN*	*Portageville, MO(A)*	*Portageville, MO(B)*	*Springfield, TN*	*Test Mean*
AG 4135	.	19.2	14.2	14.6	12.9	12.2	14.1	15.5	14.6
LD06-7620	.	.	.	.	.	.	.	.	.
AG 43X7	.	.	.	.	.	.	.	.	.
AG 39X7	.	17.2	13.9	13.5	13.1	14.1	14.6	16.0	14.6
DS31-243	.	15.6	11.7	12.4	12.1	11.6	13.5	13.0	12.8
LG11-8169-007F	.	17.6	12.9	12.7	14.3	11.2	13.7	13.4	13.6
S15-10879C	.	16.2	13.3	12.9	12.4	12.3	12.8	12.3	13.2
S15-3847RY	.	15.3	11.5	11.8	11.9	12.1	13.2	10.8	12.3
S15-5904RY	.	16.0	14.7	13.9	14.9	12.3	14.5	13.1	14.2
S16-14730C	.	16.5	13.9	12.5	13.9	13.1	15.1	13.6	14.1
S16-5540R	.	17.7	13.9	11.9	13.6	12.2	16.1	12.4	13.9
V13-0113	.	16.0	13.3	11.7	13.5	11.3	13.6	13.1	13.2
V14-1219	.	14.8	11.4	11.7	9.2	11.0	12.2	11.9	11.7
V14-1235	.	12.2	10.3	10.7	9.1	10.8	12.8	10.6	11.0
Mean	.	16.2	12.9	12.5	12.6	12.0	13.8	13.0	13.3
LSD(0.05)	.	.	0.8	1.2	.	0.7	1.8	.	0.9
CV(%)	.	.	3.5	5.4	0.0	3.4	7.5	0.0	7.4

TABLE 11 - OIL (%)†
UNIFORM GROUP IV-S-EARLY 2019

STRAIN/ VARIETY	Belle Mina, AL	Columbia, MO	Jackson, TN	Kibler, AR	Knoxville, TN	Portageville, MO(A)	Portageville, MO(B)	Springfield, TN	Test Mean
AG 4135	.	19.2	20.3	19.8	20.7	19.9	.	.	20.0
LD06-7620	.	.	.	.	.	.	.	.	.
AG 43X7	.	.	.	.	.	.	.	.	.
AG 39X7	.	18.8	19.9	20.0	19.9	19.5	.	.	19.6
DS31-243	.	18.8	18.6	19.1	19.5	19.0	.	.	19.0
LG11-8169-007F	.	19.2	19.2		19.8	19.0	.	.	19.4
S15-10879C	.	17.3	17.6	18.2	19.3	17.7	.	.	18.0
S15-3847RY	.	18.8	20.1	19.6	21.0	19.6	.	.	19.8
S15-5904RY	.	19.1	20.0	19.8	20.9	19.6	.	.	19.9
S16-14730C	.	18.9	20.4	18.8	19.8	19.1	.	.	19.3
S16-5540R	.		19.5	19.6	20.3	18.4	.	.	19.3
V13-0113	.	17.9	18.9	19.0	20.1	18.1	.	.	18.8
V14-1219	.	19.0	20.0	19.8	21.0	19.6	.	.	19.9
V14-1235	.	19.7	20.7	21.5	21.8	20.1	.	.	20.8
Mean	.	18.8	19.6	19.6	20.4	19.1	.	.	19.5
LSD(0.05)	.	0.4		0.6	0.5	0.6	.	.	0.5
CV(%)	.	1.1		1.7	1.5	2.0	.	.	2.3

†Oil percentage reported on a 13% moisture basis beginning in 2015.
Protein and oil data from all replicates of a trial were reported in 2019.

TABLE 12 - PROTEIN (%)†
UNIFORM GROUP IV-S-EARLY 2019

STRAIN/ VARIETY	Belle Mina, AL	Columbia, MO	Jackson, TN	Kibler, AR	Knoxville, TN	Portageville, MO(A)	Portageville, MO(B)	Springfield, TN	Test Mean
AG 4135	.	35.8	35.3	36.5	34.3	33.8	.	.	35.2
LD06-7620	.	.	.	.	.	.	.	.	.
AG 43X7	.	.	.	.	.	.	.	.	.
AG 39X7	.	34.5	34.7	35.8	34.5	35.2	.	.	35.0
DS31-243	.	36.3	37.5	36.2	34.9	35.5	.	.	36.0
LG11-8169-007F	.	35.7	36.7		35.2	35.0	.	.	35.7
S15-10879C	.	36.6	35.5	37.1	34.1	37.1	.	.	36.2
S15-3847RY	.	34.7	34.5	34.8	32.2	35.1	.	.	34.3
S15-5904RY	.	35.9	37.0	36.1	34.5	35.4	.	.	35.7
S16-14730C	.	34.6	34.6	35.7	34.5	36.0	.	.	35.2
S16-5540R	.		35.8	35.4	34.7	37.3	.	.	35.9
V13-0113	.	37.4	37.6	37.5	35.1	38.6	.	.	37.3
V14-1219	.	35.3	36.2	35.5	32.7	34.9	.	.	34.8
V14-1235	.	32.7	34.0	32.3	30.8	33.9	.	.	32.7
Mean	.	35.4	35.8	35.7	34.0	35.7	.	.	35.3
LSD(0.05)	.	1.2		1.5	1.4	1.5	.	.	1.0
CV(%)	.	1.9		2.2	2.5	2.5	.	.	2.8

†Protein percentage reported on a 13% moisture basis beginning in 2015.
Protein and oil data from all replicates of a trial were reported in 2019.

TABLE 13 - MEAL (%)†
UNIFORM GROUP IV-S-EARLY 2019

STRAIN/ VARIETY	Belle Mina, AL	Columbia, MO	Jackson, TN	Kibler, AR	Knoxville, TN	Portageville, MO(A)	Portageville, MO(B)	Springfield, TN	Test Mean
AG 4135	.	48.2	48.2	49.5	47.0	45.8	.	.	47.7
LD06-7620	.	.	.	.	.	.	.	.	.
AG 43X7	.	.	.	.	.	.	.	.	.
AG 39X7	.	46.2	47.2	48.6	46.8	47.6	.	.	47.3
DS31-243	.	48.6	50.1	48.7	47.2	47.6	.	.	48.3
LG11-8169-007F	.	48.0	49.3		47.7	46.9	.	.	48.1
S15-10879C	.	48.1	46.8	49.3	45.9	49.1	.	.	48.0
S15-3847RY	.	46.5	46.9	47.1	44.4	47.4	.	.	46.5
S15-5904RY	.	48.2	50.2	48.9	47.4	47.9	.	.	48.4
S16-14730C	.	46.4	47.3	47.8	46.7	48.4	.	.	47.4
S16-5540R	.		48.4	47.9	47.3	49.7	.	.	48.4
V13-0113	.	49.6	50.4	50.3	47.8	51.2	.	.	49.9
V14-1219	.	47.4	49.2	48.2	44.9	47.2	.	.	47.3
V14-1235	.	44.3	46.6	44.8	42.8	46.2	.	.	44.8
Mean	.	47.4	48.4	48.3	46.3	47.9	.	.	47.7
LSD(0.05)	.	1.6		1.7	1.7	1.7	.	.	1.2
CV(%)	.	2.0		2.0	2.2	2.1	.	.	2.5

†Meal percentage reported on a 13% moisture basis beginning in 2018.
Protein and oil data from all replicates of a trial were reported in 2019.

TABLE 14 - PARENTAGE OF ENTRIES
UNIFORM GROUP IV-S-LATE 2019

Ent	Strain/Variety	Parentage	Source	Fn	Trans-genic†	Special Traits‡
1	Ellis	5002T x 5601T	Commercial		Conv	
2	AG 4632RR2Y	Commercial check	Commercial		RR2	
3	AG 46X7	Commercial check	Commercial		RRX	
4	AG49X6	Commercial check	Commercial		RRX	
5	DA10x30-09F	Jake x DB04-10997	Gillen		Conv	
6	DA10x30-48F	Jake x DB04-10997	Gillen		Conv	
7	DA1221-01-597	DB04-10836 x (DA10x53-F2-B5-066)	Gillen		Conv	HO
8	DA1239-09-E	(DB05x029-117F) x DB06-2257	Gillen		Conv	25% Northern germplasm, 25% PI 423823
9	DA1241-01	(DB06x037-23) x DB03-8416	Gillen		Conv	25% PI 398399
10	Ellis-HOln	Ellis[4] x HO x ln	Pantalone		Conv	HOLN
11	K15-1874	KS5004N/435.TCS	Schapaugh	F5	Conv	
12	S15-3772RY	S08-17361 x S11-9618RR	Chen		RR2	Oil
13	S16-7875C	S11-16653 x S11-20124	Chen		Conv	RKN
14	S16-7922C	S11-16653 x S11-20124	Chen		Conv	RKN, Excluder
15	S16-11644C	S09-13185 x S11-20124	Chen		Conv	RKN, Excluder
16	S16-14379C	S08-17361 x LG09-7163	Chen		Conv	
17	S16-16641R	S12-11694RR1 x S11-20337RR1	Chen		RR1	Protein, HO, RKN, SCN-3
18	S16-16814R	R09-430 x S12-11694RR1	Chen		RR1	Protein, HO, RKN
19	TN14-5021	Caviness x Anand	Pantalone		Conv	
20	V14-3508	(R04-198 x Glenn) x V03-4705	Zhang	F4	Conv	> 50% meal

†Conv= Conventional(non-transgenic), LL= Liberty Link®, RR1= Roundup Ready®, and RR2=Roundup Ready 2 Yield® RRX= Roundup Ready 2 Xtend®

‡AA= modified amino acids, DNC= Do not cross with this, FLS= Frogeye leaf spot resistance, LJ= Long juvenile, LN= low linolenic acid, LP= low phytate, HO= high olelic acid, HOLN= high oleic acid/low linolenic acid, SCN= Soybean cyst nematode resistance, SR= Soybean rust resistance, and STS= sulfonylurea tolerant

TABLE 15 - GENERAL SUMMARY OF PERFORMANCE
UNIFORM TEST IV-S-LATE 2019

STRAIN/		AVG.		YIELD†			PROTEIN‡			OIL‡	
VARIETY	RANK	RANK	2019	18-19	17-19	2019	18-19	17-19	2019	18-19	17-19
Ellis	11	10	57.2	57.9	58.8	35.8	35.2	35.0	18.9	19.2	18.9
AG 4632RR2Y §	.	.	.	54.1	58.8	.	33.1	33.1	.	20.6	20.2
AG46X7 §	.	.	.	53.7	.	.	33.5	.	.	20.4	.
AG49X6	2	5	63.8	.	.	35.0	.	.	19.8	.	.
DA10x30-09F	1	5	64.0	61.2	60.4	37.4	36.9	36.5	17.8	18.1	18.0
DA10x30-48F	6	8	60.2	59.6	58.8	37.8	37.1	36.8	18.4	18.7	18.6
DA1221-01-597	16	14	54.5	.	.	37.4	.	.	19.4	.	.
DA1239-09-E	17	13	54.5	.	.	37.3	.	.	18.7	.	.
DA1241-01	7	9	58.6	.	.	36.6	.	.	19.7	.	.
Ellis-HOln	12	11	56.6	.	.	36.2	.	.	19.2	.	.
K15-1874	8	10	58.3	56.6	.	35.7	35.4	.	19.5	19.6	.
S15-3772RY	10	9	57.6	58.1	.	35.4	34.9	.	20.2	20.6	.
S16-7875C	5	8	60.6	.	.	34.8	.	.	19.9	.	.
S16-7922C	4	6	61.7	.	.	35.5	.	.	19.6	.	.
S16-11644C	3	6	62.5	.	.	35.7	.	.	19.3	.	.
S16-14379C	15	12	55.1	.	.	35.3	.	.	19.6	.	.
S16-16641R	14	12	55.4	.	.	37.1	.	.	19.6	.	.
S16-16814R	9	9	57.7	.	.	37.0	.	.	19.5	.	.
TN14-5021	13	11	56.4	56.8	57.7	35.8	35.3	35.2	19.5	19.7	19.6
V14-3508	18	14	54.0	.	.	37.6	.	.	17.9	.	.
Mean	.	.	58.3	.	.	36.3	.	.	19.2	.	.
LSD(0.05)	.	.	6.0	.	.	0.6	.	.	0.4	.	.
CV(%)	.	.	12.6	.	.	2.3	.	.	2.5	.	.

† Data not included in mean: 2019 - Belle Mina,AL; Bossier City,LA; Orange,VA; Springfield,TN; and Tallassee,AL
2018 - Bossier City,LA; Knoxville,TN; and Tallassee,AL
2017 - Not applicable

‡ Protein percentage and oil percentage reported on a 13% moisture basis beginning in 2015.

§ Data from these checks in 2019 were omitted due to poor seed quality. The 18-19 means are actually the 2018 mean and the 17-19 means are actually the means of 2017 and 2018.

TABLE 16 - GENERAL SUMMARY OF PERFORMANCE -Part 2
UNIFORM TEST IV-S-LATE 2019

STRAIN/ VARIETY	MEAL† PRO %	MAT INDEX	LOD	HT	SEED QUALITY	SEED SIZE	FL. COLOR	PUB. COLOR	POD COLOR
Ellis	47.9	0	1	24	1.6	12.2	W	G	T
AG 4632RR2Y	.	.	.	.	.	.	P	G	Br
AG 46X7	.	.	.	.	.	.			
AG49X6	47.3	-1	2	34	1.9	13.6			
DA10x30-09F	49.5	-2	2	32	1.8	10.9	P	T	T
DA10x30-48F	50.4	-1	2	30	1.6	11.4	P	T	T
DA1221-01-597	50.4	-1	2	31	2.0	12.6	P	T	T
DA1239-09-E	49.9	-2	2	28	1.6	14.5	W	G	T
DA1241-01	49.5	-2	2	28	2.0	13.5	W	G	T
Ellis-HOln	48.6	-1	1	23	1.5	12.1			
K15-1874	48.1	-2	1	25	1.8	12.9			
S15-3772RY	48.3	1	2	34	2.4	15.2	P	G	T
S16-7875C	47.3	0	2	29	1.8	14.5	W	T	T
S16-7922C	48.0	0	2	30	1.8	12.9	W	T	T
S16-11644C	48.2	0	2	28	1.8	12.7	W	T	T
S16-14379C	47.7	-1	2	34	2.0	15	P	Lt	T
S16-16641R	50.2	-2	2	30	1.7	11.9	W	T	T
S16-16814R	50.0	0	1	27	1.8	12.9	W	G	T
TN14-5021	48.2	-1	2	26	1.6	12.4	W	T	
V14-3508	49.7	-3	1	25	1.9	13.5	W	T	
Mean	48.8	-1	2	29	1.8	13			
LSD(0.05)	0.7	1	0	2	0.4	0.7			
CV(%)	2.1	235	32	11	29.0	8.4			

† Estimated meal protein content was added to the annual report in 2018.

TABLE 17 - GENERAL SUMMARY OF PEST REACTION
UNIFORM TEST IV-S-LATE 2019

STRAIN/ VARIETY	SCN Cyst Score (1-5 Scale)†			PRK GA	SRK GA	SC RATING	SC SCORE
	Race 2	Race 3	Race 5				
Ellis	3	4	3	.	.	R	1.0
AG 4632RR2Y	.	1	3	5.0	5.0	MR	2.0
AG 46X7	.	1	.	.	.	R	1.0
AG49X6	3	1	2	3.3	4.5	R	1.0
DA10x30-09F	2	1	1	1.0	1.8	R	1.0
DA10x30-48F	4	1	2	1.3	2.0	R	1.0
DA1221-01-597	3	2	4	1.0	2.3	R	1.0
DA1239-09-E	4	3	4	2.0	2.8	R	1.0
DA1241-01	3	3	3	2.5	5.0	R	1.0
Ellis-HOln	4	3	5	1.0	1.8	R	1.0
K15-1874	2	1	1	3.8	5.0	R	1.0
S15-3772RY	2	2	2	3.3	3.5	R	1.0
S16-7875C	2	1	1	1.0	1.3	SS	3.0
S16-7922C	2	2	2	1.0	1.0	R	1.0
S16-11644C	1	2	2	1.0	1.0	MS	4.0
S16-14379C	2	2	4	5.0	5.0	R	1.0
S16-16641R	1	1	1	1.0	2.3	SS	3.0
S16-16814R	1	1	1	1.0	1.3	MS	4.0
TN14-5021	1	1	1	5.0	5.0	R	1.0
V14-3508	3	4	3	2.3	4.3	MR	2.0
Mean	.	.	.	2.2	2.9		.
LSD (0.05):	.	.	.	0.2	0.4		.
CV (%)	.	.	.	13.0	20.0		.

†The race 2, 3, and 5 SCN populations used in these tests were typed as HG (Heterodera glycines) Type 1.2.5.7, HG Type 5.7, and HG Type 2.5.7, respectively.

TABLE 18 - SEED YIELD (BUSHELS PER ACRE)
UNIFORM TEST IV-S-LATE 2019 †

STRAIN/ VARIETY	Belle Mina, AL	Bossier City, LA	Jackson, TN	Kibler, AR	Knoxville, TN	Orange, VA	Pittsburg, KS
Ellis	26.2	30.1	57.1	64.7	79.5	37.7	47.7
AG 4632RR2Y	.	.	.	.	.	.	.
AG 46X7	.	.	.	.	.	.	.
AG49X6	30.1	32.7	49.2	63.4	90.0	40.2	59.8
DA10x30-09F	23.9	48.9	66.5	69.8	84.9	36.0	55.7
DA10x30-48F	27.9	42.2	62.3	67.2	76.2	35.3	49.9
DA1221-01-597	31.2	44.2	58.6	61.7	68.8	33.4	43.7
DA1239-09-E	26.9	51.6	42.6	61.8	74.6	33.9	48.7
DA1241-01	32.5	31.1	57.4	62.6	79.1	32.6	47.1
Ellis-HOln	23.0	39.1	61.3	60.4	86.0	30.9	44.7
K15-1874	21.2	35.0	47.9	68.9	87.3	29.4	55.3
S15-3772RY	33.5	29.2	50.0	69.8	80.8	27.4	49.6
S16-7875C	28.9	57.1	56.7	70.6	76.9	31.4	53.8
S16-7922C	26.6	49.5	61.7	72.4	87.5	29.2	55.8
S16-11644C	25.9	34.8	60.6	79.4	76.5	28.8	54.3
S16-14379C	24.2	48.8	51.4	53.4	86.8	26.3	47.2
S16-16641R	31.1	36.6	41.8	68.1	75.5	27.4	58.2
S16-16814R	23.7	64.9	59.3	70.6	77.6	28.9	51.4
TN14-5021	20.5	32.3	63.2	70.7	76.1	28.3	56.8
V14-3508	24.6	50.0	59.9	54.4	76.4	34.3	46.2
Mean	26.8	42.1	56.0	66.1	80.0	31.7	51.4
LSD(0.05)	7.4	25.1	8.8	8.7	15.5	10.8	4.5
CV(%)	16.7	35.9	9.5	7.4	11.7	20.6	5.3

†Data not included in the mean: Belle Mina,AL; Bossier City,LA; Orange,VA; Springfield,TN; and Tallassee,AL.

TABLE 18 - SEED YIELD (BUSHELS PER ACRE) (continued)
UNIFORM TEST IV-S-LATE 2019 †

STRAIN/ VARIETY	Portageville, MO(A)	Portageville, MO(B)	Springfield, TN	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	52.5	37.6	43.3	32.3	61.0	57.2
AG 4632RR2Y	.	.	.	.	.	.
AG 46X7	.	.	.	.	.	.
AG49X6	58.9	59.9	49.6	18.1	64.3	63.8
DA10x30-09F	52.3	58.5	57.9	25.6	60.1	64.0
DA10x30-48F	57.8	48.0	51.2	29.6	60.2	60.2
DA1221-01-597	49.9	44.2	48.6	34.6	54.8	54.5
DA1239-09-E	50.1	46.4	52.5	36.6	57.3	54.5
DA1241-01	53.1	51.0	48.7	27.2	59.7	58.6
Ellis-HOln	48.8	32.9	44.5	29.3	61.4	56.6
K15-1874	47.5	45.0	52.3	14.7	56.2	58.3
S15-3772RY	56.6	38.1	47.9	13.7	59.3	57.6
S16-7875C	49.3	54.4	62.9	27.3	62.5	60.6
S16-7922C	43.8	48.5	46.4	28.6	62.2	61.7
S16-11644C	53.0	55.2	57.8	16.2	60.3	62.5
S16-14379C	51.5	39.1	43.2	14.6	56.6	55.1
S16-16641R	49.3	43.5	58.6	17.8	51.1	55.4
S16-16814R	52.4	49.5	49.3	18.7	43.5	57.7
TN14-5021	46.3	28.7	56.2	15.4	54.2	56.4
V14-3508	48.3	33.8	48.2	19.1	58.9	54.0
Mean	51.2	45.2	51.1	23.3	58.0	58.3
LSD(0.05)	7.6	10.7	16.7	17.7	6.4	6.0
CV(%)	9.0	14.2	19.7	41.0	6.7	12.6

TABLE 19 - RELATIVE MATURITY (DAYS EARLIER (-) OR LATER (+) THAN ENTRY 1)
UNIFORM GROUP IV-S-LATE 2019

STRAIN/ VARIETY	*Belle Mina, AL*	*Bossier City, LA*	*Jackson, TN*	*Kibler, AR*	*Knoxville, TN*	*Pittsburg, KS*	*Portageville, MO(A)*
Ellis	9/10	9/28	10/1	9/26	10/2	10/31	9/25
AG 4632RR2Y	.	.	.	.	.	.	.
AG 46X7	.	.	.	.	.	.	.
AG49X6	1	2	0	-1	-3	-1	0
DA10x30-09F	1	-2	-3	3	-5	-4	-2
DA10x30-48F	1	-2	-2	1	-5	-3	-2
DA1221-01-597	1	-3	-1	0	-4	2	-2
DA1239-09-E	1	-4	-1	-1	-4	0	-2
DA1241-01	1	-6	-3	0	-4	-1	-4
Ellis-HOln	-1	-2	-1	-1	-3	-2	0
K15-1874	1	-2	-2	1	-4	-2	-3
S15-3772RY	3	2	0	6	-3	3	-2
S16-7875C	2	0	0	2	-2	2	1
S16-7922C	1	0	1	5	-5	4	-3
S16-11644C	2	-3	-1	4	-3	0	-1
S16-14379C	0	2	-5	0	-4	1	-2
S16-16641R	-2	-1	-3	1	-5	-4	-1
S16-16814R	2	1	3	2	1	1	-3
TN14-5021	-3	-3	-1	-1	-3	2	-2
V14-3508	-5	-2	-4	-1	-5	-4	0
Mean	0	-1	-1	1	-3	0	-2
LSD(0.05)	2	3	3	2	2	3	2
CV(%)	421	152	143	116	36	403	69

TABLE 19 - RELATIVE MATURITY (continued)
UNIFORM GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Portageville, MO(B)	Springfield, TN	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	10/11	9/26	9/29	10/1	10/1
AG 4632RR2Y	.	.	.	.	.
AG 46X7	.	.	.	.	.
AG49X6	-5	0	1	-4	-1
DA10x30-09F	-3	0	-1	-2	-2
DA10x30-48F	-1	-1	0	-2	-1
DA1221-01-597	0	0	0	1	-1
DA1239-09-E	-6	1	0	1	-2
DA1241-01	-4	1	1	-4	-2
Ellis-HOln	-1	1	1	-2	-1
K15-1874	-5	0	2	-4	-2
S15-3772RY	-4	1	3	-2	1
S16-7875C	0	0	-1	1	0
S16-7922C	1	1	-2	0	0
S16-11644C	-1	2	1	0	0
S16-14379C	-5	0	2	-3	-1
S16-16641R	-3	0	2	-4	-2
S16-16814R	-2	2	0	-3	0
TN14-5021	-6	0	4	-2	-1
V14-3508	-7	0	2	-6	-3
Mean	-3	0	1	-2	-1
LSD(0.05)	3	2	5	3	1
CV(%)	58	268	461	80	235

TABLE 20 - PLANT HEIGHT (INCHES)
UNIFORM GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Belle Mina, AL	Bossier City, LA	Jackson, TN	Kibler, AR	Knoxville, TN	Orange, VA	Pittsburg, KS
Ellis	20	15	35	27	24		28
AG 4632RR2Y	.	.	.	.	.	.	.
AG 46X7	.	.	.	.	.	.	.
AG49X6	32	28	45	35	37		35
DA10x30-09F	24	20	38	35	37		38
DA10x30-48F	25	21	39	33	32		36
DA1221-01-597	26	19	42	34	35		38
DA1239-09-E	25	17	38	28	29		31
DA1241-01	22	18	39	33	29		33
Ellis-HOln	19	15	31	23	24		26
K15-1874	19	13	38	24	28		29
S15-3772RY	32	31	45	39	41		38
S16-7875C	24	23	38	29	30		32
S16-7922C	26	17	42	37	31		32
S16-11644C	23	18	38	28	29		33
S16-14379C	30	33	45	35	37		34
S16-16641R	26	21	39	34	31		35
S16-16814R	25	19	34	27	30		30
TN14-5021	19	15	36	24	27		29
V14-3508	18	17	36	23	27		28
Mean	24	20	39	30	31		33
LSD(0.05)	3	5	4	4	6		3
CV(%)	7	15	5	7	11		6

TABLE 20 - PLANT HEIGHT (INCHES) (continued)
UNIFORM GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Portageville, MO(A)	Portageville, MO(B)	Springfield, TN	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	22	18	22	30	29	25
AG 4632RR2Y	.	.	.	.	.	.
AG 46X7	.	.	.	.	.	.
AG49X6	37	31	31	33	34	34
DA10x30-09F	30	25	35	32	34	32
DA10x30-48F	31	23	31	31	32	30
DA1221-01-597	28	21	31	30	34	31
DA1239-09-E	27	22	30	30	30	28
DA1241-01	27	22	28	29	31	28
Ellis-HOln	19	18	26	28	28	23
K15-1874	21	18	27	25	28	25
S15-3772RY	34	20	30	32	33	34
S16-7875C	27	23	30	31	31	29
S16-7922C	26	21	31	30	36	30
S16-11644C	29	21	32	31	29	28
S16-14379C	38	22	32	33	35	34
S16-16641R	26	24	33	31	29	30
S16-16814R	24	22	26	29	30	27
TN14-5021	24	18	29	31	29	26
V14-3508	19	19	27	30	28	25
Mean	27	22	30	30	31	29
LSD(0.05)	2	3	6	4	3	2
CV(%)	4	9	13	8	6	11

TABLE 21 - PLANT LODGING (1-5)
UNIFORM GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Belle Mina, AL	Bossier City, LA	Jackson, TN	Kibler, AR	Knoxville, TN	Orange, VA	Pittsburg, KS
Ellis	1.0	1.0	2.0	1.0	2.0	.	1.7
AG 4632RR2Y	.	.	.	.	.	.	.
AG 46X7	.	.	.	.	.	.	.
AG49X6	1.0	1.0	2.0	1.0	2.5	.	1.0
DA10x30-09F	1.0	1.0	3.0	1.0	2.7	.	3.0
DA10x30-48F	1.0	1.0	2.3	1.0	2.2	.	3.0
DA1221-01-597	1.0	1.0	3.0	1.3	2.7	.	3.0
DA1239-09-E	1.0	1.0	3.3	1.0	2.3	.	2.7
DA1241-01	1.0	1.0	2.7	1.0	1.8	.	2.3
Ellis-HOln	1.0	1.0	2.3	1.0	1.7	.	2.0
K15-1874	1.0	1.0	2.7	1.0	2.0	.	1.0
S15-3772RY	1.0	1.0	3.3	1.0	2.5	.	1.0
S16-7875C	1.0	1.0	2.7	1.0	2.2	.	4.0
S16-7922C	1.0	1.0	3.0	1.0	2.5	.	3.3
S16-11644C	1.0	1.0	3.0	1.0	2.0	.	4.0
S16-14379C	1.0	1.3	3.3	1.0	2.5	.	1.0
S16-16641R	1.0	1.0	3.7	1.0	2.7	.	3.7
S16-16814R	1.0	1.0	2.0	1.0	2.2	.	1.7
TN14-5021	1.0	1.0	2.0	1.0	1.7	.	4.0
V14-3508	1.0	1.0	2.3	1.0	1.5	.	1.0
Mean	1.0	1.0	2.7	1.0	2.2	.	2.4
LSD(0.05)	.	0.2	1.1	0.2	0.6	.	0.6
CV(%)	0.0	13.4	24.8	13.4	16.2	.	13.8

TABLE 21 - PLANT LODGING (1-5) (continued)
UNIFORM GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Portageville, MO(A)	Portageville, MO(B)	Springfield, TN	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	1.0	1.0	1.0	.	1.2	1.3
AG 4632RR2Y	.	.	.	.	.	.
AG 46X7	.	.	.	.	.	.
AG49X6	2.5	1.0	1.0	.	1.5	1.5
DA10x30-09F	2.0	1.0	1.0	.	1.5	1.7
DA10x30-48F	2.0	1.0	1.0	.	1.8	1.6
DA1221-01-597	2.5	1.0	1.0	.	1.5	1.8
DA1239-09-E	2.0	1.0	1.0	.	1.5	1.7
DA1241-01	2.0	1.0	1.0	.	1.3	1.5
Ellis-HOln	1.0	1.0	1.0	.	1.2	1.3
K15-1874	1.5	1.0	1.0	.	1.3	1.4
S15-3772RY	3.0	1.0	1.0	.	1.7	1.7
S16-7875C	2.0	1.0	1.0	.	1.5	1.7
S16-7922C	3.0	1.0	1.0	.	1.8	1.9
S16-11644C	2.0	1.0	1.0	.	1.5	1.8
S16-14379C	3.0	1.0	1.0	.	1.2	1.6
S16-16641R	2.5	1.0	1.0	.	1.9	1.9
S16-16814R	2.0	1.0	1.0	.	1.4	1.4
TN14-5021	2.0	1.0	1.0	.	1.1	1.6
V14-3508	1.0	1.0	1.0	.	1.1	1.2
Mean	2.1	1.0	1.0	.	1.4	1.6
LSD(0.05)	0.4	.	.	.	0.3	0.4
CV(%)	11.5	0.0	0.0	.	11.0	31.6

TABLE 22 - SEED QUALITY (1-5)
UNIFORM GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Belle Mina, AL	Bossier City, LA	Jackson, TN	Kibler, AR	Knoxville, TN	Orange, VA	Pittsburg, KS
Ellis	.	1.3	2.0	1.0	1.0	1.0	2.0
AG 4632RR2Y	.	.	.	.	.	.	.
AG 46X7	.	.	.	.	.	.	.
AG49X6	.	2.0	2.0	2.3	1.0	1.0	1.0
DA10x30-09F	.	1.3	2.0	2.7	1.0	1.0	2.0
DA10x30-48F	.	1.0	1.7	2.7	1.0	1.0	2.0
DA1221-01-597	.	1.0	2.0	2.0	2.0	1.0	3.0
DA1239-09-E	.	1.0	2.0	2.0	2.0	1.3	2.0
DA1241-01	.	1.0	2.0	2.3	3.0	1.0	2.0
Ellis-HOln	.	1.0	1.0	1.7	1.0	1.0	3.0
K15-1874	.	1.0	2.0	2.0	2.0	1.7	2.0
S15-3772RY	.	2.0	2.0	4.0	2.0	2.0	2.0
S16-7875C	.	1.0	2.0	2.0	2.0	1.0	2.0
S16-7922C	.	1.0	2.0	2.3	2.0	1.0	2.0
S16-11644C	.	2.0	2.0	1.3	2.0	1.0	2.0
S16-14379C	.	1.7	2.0	3.0	2.0	1.3	1.0
S16-16641R	.	1.3	2.0	1.7	1.0	2.0	3.0
S16-16814R	.	1.7	2.0	1.3	2.0	1.0	2.0
TN14-5021	.	1.0	2.0	1.0	2.0	1.0	2.0
V14-3508	.	2.0	2.0	2.7	2.0	1.0	2.0
Mean	.	1.4	1.9	2.1	1.7	1.2	2.1
LSD(0.05)	.	0.5	0.2	0.9		0.7	.
CV(%)	.	22.5	7.1	25.5	0.0	34.4	.

TABLE 22 - SEED QUALITY (1-5) (continued)
UNIFORM GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Portageville, MO(A)	Portageville, MO(B)	Springfield, TN	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	1.0	2.3	3.0	.	1.3	1.6
AG 4632RR2Y	.	.	.	.	.	.
AG 46X7	.	.	.	.	.	.
AG49X6	2.0	3.0	2.0	.	2.1	1.9
DA10x30-09F	2.0	3.0	2.0	.	1.2	1.8
DA10x30-48F	1.0	2.7	2.0	.	1.2	1.6
DA1221-01-597	2.0	2.7	3.0	.	1.2	2.0
DA1239-09-E	1.0	2.0	1.0	.	1.3	1.6
DA1241-01	3.0	3.0	1.0	.	2.0	2.0
Ellis-HOln	1.0	2.0	2.0	.	1.4	1.5
K15-1874	1.7	2.3	2.0	.	1.3	1.8
S15-3772RY	1.7	4.0	2.0	.	2.5	2.4
S16-7875C	2.0	2.3	2.0	.	1.5	1.8
S16-7922C	2.0	2.3	2.0	.	1.4	1.8
S16-11644C	1.0	3.0	2.0	.	1.4	1.8
S16-14379C	1.7	2.9	2.0	.	2.2	2.0
S16-16641R	1.0	2.9	1.0	.	1.7	1.7
S16-16814R	1.0	3.0	2.0	.	1.6	1.8
TN14-5021	1.0	2.3	2.0	.	1.8	1.6
V14-3508	1.3	2.9	2.0	.	1.2	1.9
Mean	1.5	2.7	1.9	.	1.6	1.8
LSD(0.05)	0.4	0.7	.	.	0.2	0.4
CV(%)	17.5	15.2	0.0	.	7.5	29.4

TABLE 23 - SEED SIZE (GRAMS PER 100 SEED)
UNIFORM GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Belle Mina, AL	Bossier City, LA	Jackson, TN	Kibler, AR	Knoxville, TN	Orange, VA	Pittsburg, KS
Ellis	.	15.9	11.2	11.3	11.7	11.7	11.2
AG 4632RR2Y	.	.	.	.	.	.	.
AG 46X7	.	.	.	.	.	.	.
AG49X6	.	16.2	12.6	12.0	11.6	13.7	14.0
DA10x30-09F	.	12.9	11.0	9.3	10.2	11.0	11.6
DA10x30-48F	.	14.3	11.4	9.5	10.6	11.3	11.1
DA1221-01-597	.	16.5	11.6	10.5	12.3	14.0	12.6
DA1239-09-E	.	17.5	14.4	12.0	13.6	13.7	13.6
DA1241-01	.	14.8	13.4	12.2	13.0	13.7	12.6
Ellis-HOln	.	16.2	11.7	11.8	11.6	11.3	11.3
K15-1874	.	14.6	11.6	12.5	11.5	13.0	14.1
S15-3772RY	.	19.6	15.0	13.2	13.0	16.0	14.4
S16-7875C	.	15.9	14.1	13.1	14.1	14.3	13.6
S16-7922C	.	14.5	12.7	12.4	13.5	13.3	12.0
S16-11644C	.	13.8	12.5	11.3	11.5	13.0	14.0
S16-14379C	.	22.1	13.9	13.2	13.6	14.3	14.7
S16-16641R	.	12.6	10.9	10.3	12.1	11.7	12.0
S16-16814R	.	15.6	13.3	11.4	12.3	13.0	12.6
TN14-5021	.	14.4	12.4	11.9	11.3	12.7	13.3
V14-3508	.	16.8	13.7	11.5	12.6	13.3	14.1
Mean	.	15.8	12.6	11.6	12.2	13.1	12.9
LSD(0.05)	.	.	0.9	1.0	.	1.1	.
CV(%)	.	.	4.3	5.4	0.0	5.1	.

TABLE 23 - SEED SIZE (GRAMS PER 100 SEED) (continued)
UNIFORM GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Portageville, MO(A)	Portageville, MO(B)	Springfield, TN	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	10.3	13.3	10.5	17.0	10.1	12.2
AG 4632RR2Y	.	.	.	.	.	.
AG 46X7	.	.	.	.	.	.
AG49X6	12.2	14.3	12.0	19.6	12.0	13.6
DA10x30-09F	9.3	12.1	9.1	13.7	9.5	10.9
DA10x30-48F	11.6	12.7	9.7	13.3	9.7	11.4
DA1221-01-597	10.3	14.1	11.1	14.8	10.8	12.6
DA1239-09-E	12.7	17.8	12.9	18.1	13.3	14.5
DA1241-01	11.8	14.4	12.5	17.9	11.7	13.5
Ellis-HOln	10.4	12.2	10.3	15.9	10.1	12.1
K15-1874	11.5	13.4	10.6	18.9	10.6	12.9
S15-3772RY	14.1	16.2	13.7	18.8	13.8	15.2
S16-7875C	12.7	16.8	14.1	16.1	13.7	14.5
S16-7922C	11.4	14.8	7.0	17.2	12.7	12.9
S16-11644C	10.6	13.9	10.3	17.3	11.3	12.7
S16-14379C	13.4	16.0	13.6	18.2	13.0	15.0
S16-16641R	10.2	13.0	9.5	17.8	10.4	11.9
S16-16814R	11.2	14.2	10.2	16.8	10.8	12.9
TN14-5021	10.7	12.2	10.3	17.6	10.1	12.4
V14-3508	12.0	14.1	11.2	17.5	12.2	13.5
Mean	11.5	14.2	11.0	17.0	11.4	13.0
LSD(0.05)	1.7	0.9	.	3.2	0.8	0.7
CV(%)	9.0	3.8	0.0	11.1	4.2	8.4

TABLE 24 - OIL (%)†
UNIFORM GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Belle Mina, AL	Bossier City, LA	Jackson, TN	Kibler, AR	Knoxville, TN	Orange, VA	Pittsburg, KS
Ellis	.	18.3	19.8	19.4	19.7	19.3	18.2
AG 4632RR2Y	.	.	.	.	.	.	.
AG 46X7	.	.	.	.	.	.	.
AG49X6	.	19.6	20.4	20.1	20.8	19.4	19.3
DA10x30-09F	.	17.6	17.7	17.7	19.2	18.3	17.7
DA10x30-48F	.	18.2	18.5	18.2	19.4	18.8	18.2
DA1221-01-597	.	19.2	19.7	19.8	20.1	18.9	17.9
DA1239-09-E	.	17.4	19.7	18.8	19.8	18.7	18.1
DA1241-01	.	19.2	20.1	19.4	20.7	20.2	19.1
Ellis-HOln	.	18.9	19.8	19.7	19.8	19.9	18.2
K15-1874	.	18.6	19.8	19.4	20.6	20.4	19.1
S15-3772RY	.	18.5	21.1	21.3	21.8	19.8	19.3
S16-7875C	.	19.0	20.4	20.1	21.1	20.4	18.8
S16-7922C	.	18.8	20.3	20.2	20.9	19.7	18.5
S16-11644C	.	19.2	19.7	19.2	20.4	19.7	18.2
S16-14379C	.	18.3	20.4	20.0	20.9	19.9	19.1
S16-16641R	.	18.9	20.3	19.6	21.1	20.0	18.5
S16-16814R	.	19.4	19.9	20.2	20.4	19.7	18.2
TN14-5021	.	19.0	19.6	20.0	20.5	19.9	18.9
V14-3508	.	17.6	18.2	17.6	18.5	18.3	17.4
Mean	.	18.7	19.7	19.5	20.3	19.5	18.5
LSD(0.05)	.	0.7	0.4	0.4	0.5	0.5	
CV(%)	.	2.2	1.2	1.1	1.3	1.6	

†Oil percentage reported on a 13% moisture basis beginning in 2015.
Protein and oil data from all replicates of a trial were reported in 2019.

TABLE 24 - OIL (%)† (continued)
UNIFORM GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Portageville, MO(A)	Portageville, MO(B)	Springfield, TN	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	18.2	.	.	18.5	18.6	18.9
AG 4632RR2Y	.	.	.	.	.	.
AG 46X7	.	.	.	.	.	.
AG49X6	19.5	.	.	19.4	19.3	19.8
DA10x30-09F	16.4	.	.	18.3	17.3	17.8
DA10x30-48F	16.7	.	.	19.2	18.2	18.4
DA1221-01-597	18.8	.	.	20.2	19.5	19.4
DA1239-09-E	18.0	.	.	19.0	18.9	18.7
DA1241-01	18.6	.	.	20.0	20.0	19.7
Ellis-HOln	18.9	.	.	19.0	19.1	19.3
K15-1874	18.9	.	.	18.9	19.6	19.5
S15-3772RY	19.8	.	.	20.0	20.4	20.2
S16-7875C	19.2	.	.	19.8	20.0	19.9
S16-7922C	18.6	.	.	19.4	19.8	19.6
S16-11644C	18.4	.	.	19.3	19.9	19.3
S16-14379C	18.8	.	.	19.2	20.1	19.6
S16-16641R	19.0	.	.	19.1	20.0	19.6
S16-16814R	18.7	.	.	19.4	19.8	19.6
TN14-5021	18.4	.	.	19.4	19.7	19.5
V14-3508	16.9	.	.	18.2	18.1	17.9
Mean	18.4	.	.	19.2	19.4	19.2
LSD(0.05)	0.4	.	.	1.2	0.5	0.4
CV(%)	1.3	.	.	3.3	1.6	2.5

TABLE 25 - PROTEIN (%)†
UNIFORM GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Belle Mina, AL	Bossier City, LA	Jackson, TN	Kibler, AR	Knoxville, TN	Orange, VA	Pittsburg, KS
Ellis	.	38.5	34.9	34.9	34.6	33.7	36.4
AG 4632RR2Y	.	.	.	.	.	.	.
AG 46X7	.	.	.	.	.	.	.
AG49X6	.	38.0	35.3	33.3	32.3	33.5	35.2
DA10x30-09F	.	39.2	37.7	37.0	35.1	35.6	36.7
DA10x30-48F	.	39.7	38.0	37.7	36.0	35.9	36.8
DA1221-01-597	.	39.0	36.9	36.9	35.8	36.4	38.9
DA1239-09-E	.	39.8	36.8	36.8	35.8	36.2	36.8
DA1241-01	.	38.4	36.2	36.6	35.0	34.6	36.9
Ellis-HOln	.	38.1	35.8	35.8	35.1	33.9	37.2
K15-1874	.	38.1	35.9	35.4	34.2	33.2	36.2
S15-3772RY	.	39.7	34.7	33.9	32.7	34.2	34.8
S16-7875C	.	37.6	34.9	34.9	33.1	32.0	34.9
S16-7922C	.	37.8	35.1	35.4	34.3	33.8	34.9
S16-11644C	.	37.1	36.2	36.7	33.9	33.8	35.8
S16-14379C	.	39.9	34.7	33.6	33.3	33.2	35.5
S16-16641R	.	40.0	36.4	37.5	35.4	34.7	37.5
S16-16814R	.	38.7	37.4	36.4	36.1	35.1	37.8
TN14-5021	.	37.8	36.0	34.6	34.4	33.9	36.3
V14-3508	.	39.5	37.6	38.1	36.9	34.9	37.0
Mean	.	38.7	36.1	35.9	34.7	34.4	36.4
LSD(0.05)	.	1.3	1.2	0.8	1.1	0.8	
CV(%)	.	1.9	2.0	1.2	1.7	1.4	

†Protein percentage reported on a 13% moisture basis beginning in 2015.
Protein and oil data from all replicates of a trial were reported in 2019.

TABLE 25 - PROTEIN (%)† (continued)
UNIFORM GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Portageville, MO(A)	Portageville, MO(B)	Springfield, TN	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	36.1	.	.	38.6	34.2	35.7
AG 4632RR2Y	.	.	.	.	.	.
AG 46X7	.	.	.	.	.	.
AG49X6	34.7	.	.	39.1	33.6	34.9
DA10x30-09F	39.1	.	.	39.5	36.4	37.4
DA10x30-48F	39.5	.	.	40.5	36.1	37.9
DA1221-01-597	38.2	.	.	39.6	35.1	37.4
DA1239-09-E	38.0	.	.	40.1	35.0	37.3
DA1241-01	37.6	.	.	39.8	34.3	36.6
Ellis-HOln	36.5	.	.	38.7	34.4	36.1
K15-1874	36.1	.	.	38.3	34.0	35.7
S15-3772RY	35.7	.	.	40.0	33.1	35.5
S16-7875C	35.9	.	.	37.6	32.6	34.8
S16-7922C	35.3	.	.	39.1	33.4	35.5
S16-11644C	36.6	.	.	38.5	33.1	35.7
S16-14379C	36.1	.	.	39.5	32.0	35.3
S16-16641R	37.5	.	.	40.8	34.4	37.1
S16-16814R	37.8	.	.	39.6	34.5	37.0
TN14-5021	36.4	.	.	39.4	33.2	35.7
V14-3508	38.1	.	.	40.8	35.1	37.6
Mean	37.0	.	.	39.4	34.1	36.3
LSD(0.05)	0.8	.	.	2.1	0.8	0.6
CV(%)	1.4	.	.	2.7	1.4	2.3

TABLE 26 - MEAL (%)†
UNIFORM GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Belle Mina, AL	Bossier City, LA	Jackson, TN	Kibler, AR	Knoxville, TN	Orange, VA	Pittsburg, KS
Ellis	.	51.2	47.3	47.0	46.9	45.4	48.4
AG 4632RR2Y	.	.	.	.	.	.	.
AG 46X7	.	.	.	.	.	.	.
AG49X6	.	51.4	48.2	45.2	44.4	45.2	47.4
DA10x30-09F	.	51.7	49.8	48.9	47.2	47.4	48.5
DA10x30-48F	.	52.8	50.8	50.0	48.6	48.1	48.9
DA1221-01-597	.	52.4	49.9	50.0	48.8	48.8	51.5
DA1239-09-E	.	52.4	49.8	49.2	48.5	48.3	48.8
DA1241-01	.	51.7	49.3	49.4	48.0	47.1	49.6
Ellis-HOln	.	51.0	48.6	48.5	47.6	46.1	49.4
K15-1874	.	50.9	48.7	47.8	46.8	45.3	48.6
S15-3772RY	.	52.9	47.9	46.8	45.4	46.3	46.9
S16-7875C	.	50.5	47.6	47.5	45.6	43.7	46.7
S16-7922C	.	50.6	47.9	48.2	47.1	45.8	46.5
S16-11644C	.	49.9	48.9	49.4	46.3	45.8	47.6
S16-14379C	.	53.1	47.4	45.6	45.7	45.1	47.7
S16-16641R	.	53.6	49.5	50.7	48.8	47.2	50.0
S16-16814R	.	52.2	50.7	49.5	49.4	47.5	50.2
TN14-5021	.	50.7	48.6	47.0	47.0	46.0	48.7
V14-3508	.	52.1	50.0	50.3	49.3	46.4	48.7
Mean	.	51.7	48.9	48.4	47.3	46.4	48.6
LSD(0.05)	.	1.6	1.6	1.0	1.3	0.9	
CV(%)	.	1.8	2.0	1.1	1.5	1.1	

†Meal percentage reported on a 13% moisture basis beginning in 2018.
Protein and oil data from all replicates of a trial were reported in 2019.

TABLE 26 - MEAL (%)† (continued)
UNIFORM GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Portageville, MO(A)	Portageville, MO(B)	Springfield, TN	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	47.9	.	.	51.5	45.7	47.9
AG 4632RR2Y	.	.	.	.	.	.
AG 46X7	.	.	.	.	.	.
AG49X6	46.8	.	.	52.7	45.2	47.3
DA10x30-09F	50.8	.	.	52.5	47.8	49.5
DA10x30-48F	51.5	.	.	54.6	47.9	50.4
DA1221-01-597	51.2	.	.	54.0	47.4	50.4
DA1239-09-E	50.4	.	.	53.8	46.9	49.9
DA1241-01	50.2	.	.	54.0	46.5	49.5
Ellis-HOln	49.0	.	.	51.9	46.2	48.6
K15-1874	48.4	.	.	51.3	46.0	48.1
S15-3772RY	48.4	.	.	54.3	45.1	48.3
S16-7875C	48.3	.	.	51.0	44.3	47.3
S16-7922C	47.2	.	.	52.7	45.3	48.0
S16-11644C	48.7	.	.	51.8	44.9	48.2
S16-14379C	48.3	.	.	53.2	43.5	47.7
S16-16641R	50.3	.	.	54.9	46.7	50.2
S16-16814R	50.6	.	.	53.3	46.8	50.0
TN14-5021	48.4	.	.	53.1	45.0	48.2
V14-3508	49.9	.	.	54.3	46.5	49.7
Mean	49.2	.	.	53.1	46.0	48.8
LSD(0.05)	1.1	.	.	3.3	0.9	0.7
CV(%)	1.3	.	.	3.3	1.2	2.1

SUMMARY OF SEED FATTY ACIDS (%)
UNIFORM TEST IV-S-LATE 2019 †

STRAIN/ VARIETY	Palmitic Acid	Stearic Acid	Oleic Acid	Linoleic Acid	Linolenic Acid
Ellis	11.0	4.0	27.0	52.0	6.4
AG 4632RR2Y	11.0	4.1	24.0	54.0	6.4
AG 46X7	12.0	4.1	23.0	54.0	6.6
DA1221-01-597	7.4	3.0	82.0	4.1	3.8
Ellis-HOln	7.5	2.7	84.0	3.6	1.9
S16-16641R	7.3	2.9	83.0	2.8	4.1
S16-16814R	7.7	2.9	84.0	1.9	3.6
Mean	9.1	3.4	58.0	25.0	4.7
LSD(0.05)	0.4	0.3	3.2	2.7	0.5
CV(%)	3.7	7.5	5.2	10.0	10.0

†Fatty acid percentage in seed oil reported beginning in 2017.

SEED PALMITIC ACID (%)
UNIFORM GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Jackson, TN	Keiser, AR	Kibler, AR	Knoxville, TN	Portageville, MO(A)	Portageville, MO(B)	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	11.5	11.2	10.6	10.9	11.3	10.5	11.4	10.5	11.0
AG 4632RR2Y	10.5	10.5	10.9	11.0	10.9	11.0	12.3	11.3	11.1
AG 46X7	11.7	11.7	11.7	.	.	11.7	.	12.1	11.8
DA1221-01-597	7.7	.	7.3	7.5	7.1	7.6	7.2	7.5	7.4
Ellis-HOln	7.2	7.2	8.0	7.3	7.2	7.6	7.6	7.5	7.5
S16-16641R	7.0	7.5	7.2	7.0	7.3	7.5	7.6	7.3	7.3
S16-16814R	7.5	7.7	8.2	7.4	7.6	7.6	7.8	7.6	7.7
Mean	9.0	9.3	9.1	8.5	8.6	9.1	9.0	9.1	9.1
LSD(0.05)	.	.	.	.	.	.	.	.	0.4
CV(%)	.	.	.	.	.	.	.	.	3.7

SEED STEARIC ACID (%)
UNIFORM GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Jackson, TN	Keiser, AR	Kibler, AR	Knoxville, TN	Portageville, MO(A)	Portageville, MO(B)	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	4.0	4.2	3.7	4.6	3.9	3.7	4.1	3.8	4.0
AG 4632RR2Y	4.8	4.5	3.4	3.7	4.2	3.9	4.0	4.6	4.1
AG 46X7	4.5	4.3	3.2	.	.	4.0	.	4.5	4.1
DA1221-01-597	3.0	.	2.7	2.9	3.0	2.9	3.1	3.5	3.0
Ellis-HOln	2.7	2.8	2.7	2.6	2.7	2.7	2.6	2.8	2.7
S16-16641R	3.0	2.9	2.7	2.9	2.9	2.8	2.6	3.2	2.9
S16-16814R	3.5	3.0	2.4	3.1	2.5	2.7	2.9	3.0	2.9
Mean	3.6	3.6	3.0	3.3	3.2	3.2	3.2	3.6	3.4
LSD(0.05)	.	.	.	.	.	.	.	.	0.3
CV(%)	.	.	.	.	.	.	.	.	7.5

SEED OLEIC ACID (%)
UNIFORM GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Jackson, TN	Keiser, AR	Kibler, AR	Knoxville, TN	Portageville, MO(A)	Portageville, MO(B)	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	22.1	21.8	33.4	22.7	17.9	35.8	28.6	31.3	26.7
AG 4632RR2Y	25.3	25.2	22.2	25.0	24.3	23.0	24.4	26.3	24.5
AG 46X7	26.0	25.7	21.6	.	.	20.4	.	21.4	23.0
DA1221-01-597	80.8	.	84.1	81.2	81.0	82.5	82.2	79.6	81.6
Ellis-HOln	85.4	86.0	77.9	85.3	85.0	85.1	85.9	83.7	84.3
S16-16641R	82.5	82.6	84.4	83.7	82.2	82.5	84.5	80.8	82.9
S16-16814R	82.6	83.5	86.0	83.2	83.2	84.1	86.1	82.3	83.9
Mean	57.8	54.1	58.5	63.5	62.3	59.1	65.3	57.9	58.1
LSD(0.05)	.	.	.	.	.	.	.	.	3.2
CV(%)	.	.	.	.	.	.	.	.	5.2

SEED LINOLEIC ACID (%)
UNIFORM GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Jackson, TN	Keiser, AR	Kibler, AR	Knoxville, TN	Portageville, MO(A)	Portageville, MO(B)	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	56.1	56.3	46.7	55.2	58.6	44.1	51.1	47.3	51.9
AG 4632RR2Y	53.0	53.1	57.2	54.0	54.1	54.6	54.1	51.3	53.9
AG 46X7	51.9	52.1	57.3	.	.	55.9	.	54.6	54.4
DA1221-01-597	4.2	.	2.9	4.2	4.5	3.3	4.7	5.0	4.1
Ellis-HOln	2.7	2.3	9.4	3.0	3.0	2.7	2.2	3.7	3.6
S16-16641R	3.2	2.6	2.2	2.7	3.1	2.8	2.0	3.9	2.8
S16-16814R	2.4	2.2	0.5	2.6	2.4	2.0	0.3	2.9	1.9
Mean	24.8	28.1	25.2	20.3	21.0	23.6	19.1	24.1	24.7
LSD(0.05)	.	.	.	.	.	.	.	.	2.7
CV(%)	.	.	.	.	.	.	.	.	10.4

SEED LINOLENIC ACID (%)
UNIFORM GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Jackson, TN	Keiser, AR	Kibler, AR	Knoxville, TN	Portageville, MO(A)	Portageville, MO(B)	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	6.3	6.5	5.7	6.6	8.3	6.0	4.8	7.2	6.4
AG 4632RR2Y	6.4	6.6	6.3	6.3	6.5	7.6	5.3	6.5	6.4
AG 46X7	5.9	6.2	6.1	.	.	7.9	.	7.4	6.6
DA1221-01-597	4.2	.	3.0	4.1	4.4	3.7	2.8	4.4	3.8
Ellis-HOln	2.0	1.8	2.0	1.9	2.1	1.9	1.7	2.2	1.9
S16-16641R	4.3	4.3	3.5	3.7	4.5	4.3	3.3	4.8	4.1
S16-16814R	3.9	3.6	2.8	3.8	4.2	3.5	2.8	4.2	3.6
Mean	4.7	4.8	4.2	4.4	5.0	5.0	3.5	5.2	4.7
LSD(0.05)	.	.	.	.	.	.	.	.	0.5
CV(%)	.	.	.	.	.	.	.	.	10.0

TABLE 27 - PARENTAGE OF ENTRIES
PRELIMINARY GROUP IV-S-EARLY 2019

Ent	Strain/Variety	Parentage	Source	Fn	Trans-genic†	Special Traits‡
1	AG 4135	Commercial check	Commercial		RR1	
2	LD06-7620	IA3023 x LD00-3309	Commercial		Conv	
3	AG 43X7	Commercial check	Commercial		RRX	
4	AG 39X7	Commercial check	Commercial		RRX	
5	JTN-4119	5601T x PI 437655	Arelli	F9	Conv	new SCN resistance source
6	DA13086-011F	Osage x S09-10871	Gillen		Conv	
7	DA13076-042F	DB05023-26F x JTN-5203	Gillen		Conv	
8	JTN-4219	5601T x PI 437655	Arelli	F9	Conv	new SCN resistance source
9	JTN-4619	5002T x PI 494182	Arelli	F10	Conv	new SCN resistance source
10	S09-13608C	LG04-6863 x S04-10364	Chen		Conv	Stem Canker, PRR, STS
11	S15-6047RY	LS07-1343 x S11-9618RR	Chen		RR2	Oil, Stem Canker, Excluder, STS
12	S16-14161C	S08-17361 x LG09-6212	Chen		Conv	SCN-3
13	S16-9892C	LG10-2695 x S08-17361	Chen		Conv	Excluder
14	S17-19874R	S13-13360 x S13-16712RR1	Chen		RR1	
15	SA16-10735	LD07-3395bf x HM11-W193	Scaboo	F5	Conv	
16	SA16-11227	SA12-1532 x LD10-9409	Scaboo	F5	Conv	SCN
17	SA16-12348	SA12-1541 x LD08-1592	Scaboo	F5	Conv	SCN
18	TN18-4032	TN12-4098 x TN10-4037 BC1F2 HO	Pantalone		Conv	HOLN

†Conv= Conventional(non-transgenic),LL= Liberty Link®, RR1= Roundup Ready®,RR2= Roundup Ready 2 Yield®, and RRX= Roundup Ready 2 Xtend®

‡AA= modified amino acids, DNC= Do not cross with this, FLS= Frogeye leaf spot resistance, LJ= Long juvenile, LN= low linolenic acid, LP= low phytate, HO= high oleic acid, HOLN= high oleic acid/low linolenic acid, SCN= Soybean cyst nematode resistance, SR= Soybean rust resistance, and STS= sulfonylurea tolerant

TABLE 28 - GENERAL SUMMARY OF PERFORMANCE
PRELIMINARY TEST IV-S-EARLY 2019

STRAIN/ VARIETY	SEED YIELD†	RANK	AVG. RANK	MAT. INDEX	LOD	HT	SCN Cyst Score (1-5)‡ Race 2	Race 3	Race 5	SC RATING	SC SCORE
AG 4135	63.7	3	8	0	1.3	33	2	4	4	MR	2
LD06-7620 §	.	.	.	.	.	.	.	.	.	SS	3
AG 43X7 §	.	.	.	.	.	.	2	4	5	R	1
AG 39X7	60.7	10	8	-2	1.2	34	3	3	4	SS	3
JTN-4119	61.1	8	8	1	1.8	32	1	1	1	R	1
DA13086-011F	63.8	2	6	4	1.8	33	3	5	5	R	1
DA13076-042F	62.9	7	7	6	1.9	30	2	2	5	R	1
JTN-4219	60.6	11	8	1	2.0	32	1	1	1	R	1
JTN-4619	43.9	16	16	3	2.2	32	2	1	2	R	1
S09-13608C	63.2	5	7	4	2.2	36	3	4	3	R	1
S15-6047RY	58.6	13	10	2	1.1	31	5	4	4	R	1
S16-14161C	69.2	1	3	6	2.1	38	2	4	4	R	1
S16-9892C	63.1	6	7	5	2.1	36	1	4	4	R	1
S17-19874R	59.5	12	9	4	1.7	42	1	2	1	SS	3
SA16-10735	60.7	9	8	-2	1.8	30	3	4	4	R	1
SA16-11227	63.3	4	6	-2	1.4	30	3	5	3	MS	4
SA16-12348	56.7	14	11	-3	2.7	38	2	4	4	S	5
TN18-4032	52.3	15	13	3	2.8	39	1	5	4	R	1
Mean	60.2	.	.	2	1.9	34	.	.	.		.
LSD(0.05)	8.9	.	.	3	0.8	3	.	.	.		.
CV(%)	12.9	.	.	160	40.5	9	.	.	.		.

†Data not included in the mean: Keiser,AR and Orange,VA.

‡The race 2, 3, and 5 SCN populations used in these tests were typed as HG (Heterodera glycines) Type 1.2.5.7, HG Type 5.7, and HG Type 2.5.7, respectively.

§ Data from these checks in 2019 were omitted due to poor seed quality. The 18-19 means are actually the 2018 mean and the 17-19 means are actually the means of 2017 and 2018.

TABLE 29 - GENERAL SUMMARY OF PERFORMANCE (continued)
PRELIMINARY TEST IV-S-EARLY 2019

STRAIN/ VARIETY	SEED QUALITY	SEED SIZE	PROTEIN§ %	OIL§ %	MEAL PRO%	FL COLOR	PUB. COLOR	POD COLOR
AG 4135	2.8	15.1	36.2	19.8	49.1	W	G	Br
LD06-7620	.	.	.	.	.	P	G	Br
AG 43X7	.	.	.	.	.			
AG 39X7	2.3	15.2	35.2	18.8	47.1			
JTN-4119	2.5	11.6	33.1	20.7	45.3	P	G	
DA13086-011F	1.8	13.6	36.2	19.0	48.5	S	Lt	
DA13076-042F	1.9	11.7	34.6	19.4	46.6	W	T	T
JTN-4219	2.8	11.9	33.1	20.6	45.3	P	G	
JTN-4619	2.4	10.2	35.2	19.1	47.3	W	T	
S09-13608C	2.0	14.3	33.8	19.2	45.4	W	G	T
S15-6047RY	2.7	15.2	34.5	20.6	47.2	W	G	T
S16-14161C	2.6	16.1	35.1	20.0	47.7	W	G	T
S16-9892C	1.8	13.7	34.1	20.1	46.4	W	Lt	T
S17-19874R	2.5	13.5	38.5	18.9	51.5			
SA16-10735	2.7	14.6	34.9	20.1	47.5	P	G	
SA16-11227	2.2	13.1	36.2	19.0	48.6	W	G	
SA16-12348	2.4	14.9	36.1	19.1	48.6	W	T	
TN18-4032	1.9	13.4	36.8	19.6	49.7	W	G	
Mean	2.3	13.6	35.2	19.6	47.6			
LSD(0.05)	0.7	0.9	1.4	0.7	1.6			
CV(%)	32.1	7.0	3.6	3.5	3.2			

§Protein percentage and oil percentage are reported on a 13% moisture basis beginning in 2015.

TABLE 30 - SEED YIELD (BUSHELS PER ACRE)
PRELIMINARY GROUP IV-S-EARLY 2019 †

STRAIN/ VARIETY	Columbia, MO	Jackson, TN	Keiser, AR	Kibler, AR	Knoxville, TN	Orange, VA	Portageville, MO(B)	Test Mean
AG 4135	94.1	66.9	76.2	64.2	67.2	23.9	26.3	63.7
LD06-7620	.	.	.	.	.	.	.	.
AG 43X7	.	.	.	.	.	.	.	.
AG 39X7	80.7	70.0	56.3	55.1	57.1	17.0	40.5	60.7
JTN-4119	76.7	69.3	49.2	63.9	66.3	16.7	29.1	61.1
DA13086-011F	71.0	69.9	54.6	73.8	71.0	33.4	33.3	63.8
DA13076-042F	64.1	54.9	62.2	73.8	76.4	29.8	45.4	62.9
JTN-4219	76.0	73.5	52.6	58.1	63.6	27.5	30.7	60.6
JTN-4619	48.5	45.9	44.1	48.9	54.7	23.4	22.2	43.9
S09-13608C	70.4	61.3	63.3	67.3	75.8	23.3	41.6	63.2
S15-6047RY	75.7	51.7	35.0	66.9	65.8	21.6	32.9	58.6
S16-14161C	84.4	68.0	51.6	72.5	71.8	28.1	49.4	69.2
S16-9892C	75.8	67.7	65.2	49.2	77.4	22.4	45.6	63.1
S17-19874R	69.7	61.9	59.6	57.4	69.0	18.7	39.4	59.5
SA16-10735	75.5	68.4	57.5	58.3	69.7	21.4	31.6	60.7
SA16-11227	83.0	71.7	54.0	61.4	67.9	18.5	32.7	63.3
SA16-12348	82.5	58.0	59.1	55.5	62.8	19.8	24.8	56.7
TN18-4032	67.4	51.5	64.7	47.2	61.3	21.9	33.8	52.3
Mean	74.7	63.2	56.6	60.8	67.4	23.0	35.0	60.2
LSD(0.05)	8.8	7.7	21.1	16.8	12.0	11.4	6.8	8.9
CV(%)	5.5	5.7	16.0	11.8	8.4	21.9	9.1	12.9

†Data not included in the mean: Keiser,AR and Orange,VA.

TABLE 31 - RELATIVE MATURITY (DAYS EARLIER (-) OR LATER (+) THAN ENTRY 1)
PRELIMINARY GROUP IV-S-EARLY 2019

STRAIN/ VARIETY	Columbia, MO	Jackson, TN	Keiser, AR	Kibler, AR	Knoxville, TN	Orange, VA	Portageville, MO(B)	Test Mean
AG 4135	10/4	9/17	9/29	9/27	9/17	.	10/1	9/26
LD06-7620	.	.	.	.	.	.	.	.
AG 43X7	.	.	.	.	.	.	.	.
AG 39X7	-4	-4	-1	-4	5	.	-3	-2
JTN-4119	4	3	0	-4	2	.	0	1
DA13086-011F	4	8	-1	5	7	.	1	4
DA13076-042F	16	10	1	1	7	.	-1	6
JTN-4219	3	2	-1	-2	3	.	0	1
JTN-4619	4	1	1	0	4	.	6	3
S09-13608C	4	6	2	3	7	.	2	4
S15-6047RY	3	5	1	-4	4	.	3	2
S16-14161C	4	12	2	10	9	.	1	6
S16-9892C	7	10	2	5	9	.	-1	5
S17-19874R	5	6	2	7	7	.	0	4
SA16-10735	-5	-1	0	-4	-1	.	-3	-2
SA16-11227	-1	-1	0	-4	-5	.	-3	-2
SA16-12348	-3	-4	0	-2	-6	.	-4	-3
TN18-4032	3	3	1	7	7	.	0	3
						.		
Mean	3	3	0	1	4		0	2
LSD(0.05)	3	2	1	1	5	.	2	3
CV(%)	58	29	117	59	64	.	1015	160

TABLE 32 - PLANT HEIGHT (INCHES)
PRELIMINARY GROUP IV-S-EARLY 2019

STRAIN/ VARIETY	Columbia, MO	Jackson, TN	Keiser, AR	Kibler, AR	Knoxville, TN	Orange, VA	Portageville, MO(B)	Test Mean
AG 4135	38	39	33	32	35	.	20	33
LD06-7620	.	.	.	.	.	.	.	.
AG 43X7	.	.	.	.	.	.	.	.
AG 39X7	35	41	32	37	37	.	25	34
JTN-4119	35	40	32	34	36	.	19	32
DA13086-011F	32	40	32	36	34	.	24	33
DA13076-042F	36	34	28	32	31	.	20	30
JTN-4219	33	43	31	34	33	.	20	32
JTN-4619	40	36	33	31	36	.	19	32
S09-13608C	35	44	36	36	40	.	25	36
S15-6047RY	30	39	31	29	36	.	23	31
S16-14161C	36	48	35	41	38	.	30	38
S16-9892C	35	47	36	32	37	.	28	36
S17-19874R	43	48	42	46	44	.	31	42
SA16-10735	34	34	31	28	34	.	20	30
SA16-11227	33	35	29	30	31	.	24	30
SA16-12348	39	44	34	37	42	.	30	38
TN18-4032	43	48	34	40	42	.	28	39
						.		
Mean	36	41	33	35	36		24	34
LSD(0.05)	4	5	8	1	6	.	4	3
CV(%)	5	6	11	2	8	.	7	9

TABLE 30 - PLANT LODGING (1-5)
PRELIMINARY GROUP IV-S-EARLY 2019

STRAIN/ VARIETY	Columbia, MO	Jackson, TN	Keiser, AR	Kibler, AR	Knoxville, TN	Orange, VA	Portageville, MO(B)	Test Mean
AG 4135	1.3	2.5	1.0	0.0	2.0	.	1.0	1.3
LD06-7620	.	.	.	.	.	.	.	.
AG 43X7	.	.	.	.	.	.	.	.
AG 39X7	1.0	2.5	1.0	0.0	2.0	.	1.0	1.2
JTN-4119	2.5	3.5	1.0	1.0	1.8	.	1.0	1.8
DA13086-011F	2.3	3.0	1.5	1.0	2.0	.	1.0	1.8
DA13076-042F	3.5	3.0	1.0	1.0	2.0	.	1.0	1.9
JTN-4219	2.0	4.0	1.0	2.0	1.8	.	1.0	2.0
JTN-4619	4.3	4.0	1.0	0.0	2.8	.	1.0	2.2
S09-13608C	3.0	2.5	2.5	2.0	2.5	.	1.0	2.2
S15-6047RY	1.5	1.5	1.0	0.0	1.8	.	1.0	1.1
S16-14161C	2.8	2.0	2.0	3.0	2.0	.	1.0	2.1
S16-9892C	2.8	3.0	2.0	2.0	2.0	.	1.0	2.1
S17-19874R	2.8	2.0	2.0	0.0	2.5	.	1.0	1.7
SA16-10735	2.8	3.5	1.5	0.0	2.0	.	1.0	1.8
SA16-11227	1.3	2.5	1.5	0.0	2.0	.	1.0	1.4
SA16-12348	3.0	4.0	2.0	2.0	3.0	.	2.0	2.7
TN18-4032	2.3	3.5	2.0	5.0	3.0	.	1.0	2.8
						.		
Mean	2.4	2.9	1.5	1.2	2.2		1.1	1.9
LSD(0.05)	1.1	1.0	1.1	.	0.8	.	.	0.8
CV(%)	21.0	16.4	34.4	0.0	16.6	.	0.0	40.5

TABLE 34 - SEED QUALITY (1-5)
PRELIMINARY GROUP IV-S-EARLY 2019

STRAIN/ VARIETY	Columbia, MO	Jackson, TN	Keiser, AR	Kibler, AR	Knoxville, TN	Orange, VA	Portageville, MO(B)	Test Mean
AG 4135	1.0	2.0	3.0	3	2	3.5	4.5	2.8
LD06-7620	.	.	.	.	.	.	.	.
AG 43X7	.	.	.	.	.	.	.	.
AG 39X7	1.5	2.0	1.5	3	3	1.5	3.5	2.3
JTN-4119	1.5	3.0	3.0	3	2	1.0	4.5	2.5
DA13086-011F	1.0	2.0	1.0	3	1	1.0	3.5	1.8
DA13076-042F	1.5	2.0	1.0	3	2	1.0	3.5	1.9
JTN-4219	1.5	3.0	3.0	4	3	1.0	4.5	2.8
JTN-4619	1.5	3.0	2.5	3	1	2.0	3.5	2.4
S09-13608C	1.5	2.0	1.5	3	2	1.0	3.5	2.0
S15-6047RY	1.0	2.5	3.1	2	3	3.0	4.0	2.7
S16-14161C	1.5	2.0	1.5	5	2	2.5	4.0	2.6
S16-9892C	1.5	2.0	1.0	3	1	1.0	3.5	1.8
S17-19874R	1.5	2.0	1.9	4	2	3.5	3.0	2.5
SA16-10735	1.5	2.0	2.5	3	3	2.5	4.5	2.7
SA16-11227	1.5	2.0	1.5	2	2	4.4	3.0	2.2
SA16-12348	1.0	2.5	2.5	3	2	2.4	3.5	2.4
TN18-4032	1.0	2.0	2.0	3	2	1.0	3.0	1.9
Mean	1.3	2.3	2.0	3	2	2.0	3.7	2.3
LSD(0.05)	.	0.5	1.0	2	.	2.4	1.2	0.7
CV(%)	.	10.7	22.0	28	0	52.3	15.5	32.1

TABLE 35 - SEED SIZE (GRAMS PER 100 SEED)
PRELIMINARY GROUP IV-S-EARLY 2019

STRAIN/ VARIETY	Columbia, MO	Jackson, TN	Keiser, AR	Kibler, AR	Knoxville, TN	Orange, VA	Portageville, MO(B)	Test Mean
AG 4135	17.9	13.5	16.4	15	15	13.0	14.7	15.1
LD06-7620	.	.	.	.	.	.	.	.
AG 43X7	.	.	.	.	.	.	.	.
AG 39X7	17.9	14.5	18.2	14	15	13.0	13.6	15.2
JTN-4119	14.9	11.2	13.4	10	11	10.0	10.7	11.6
DA13086-011F	14.3	12.9	15.2	13	14	13.0	13.3	13.6
DA13076-042F	14.6	10.8	12.8	11	12	10.5	11.1	11.7
JTN-4219	15.1	11.8	14.1	11	11	10.0	10.2	11.9
JTN-4619	13.0	9.5	11.6	9	10	8.0	9.9	10.2
S09-13608C	15.8	12.6	16.5	13	15	14.0	13.3	14.3
S15-6047RY	19.4	13.4	19.6	13	15	14.0	13.8	15.2
S16-14161C	17.8	15.7	16.6	15	15	15.5	16.9	16.1
S16-9892C	16.3	13.9	15.3	12	14	11.5	13.8	13.7
S17-19874R	15.6	11.9	15.6	12	13	13.5	12.9	13.5
SA16-10735	18.5	13.3	18.1	13	14	12.0	14.3	14.6
SA16-11227	14.7	12.4	15.1	13	11	14.1	11.7	13.1
SA16-12348	17.0	13.2	17.5	15	15	13.1	13.5	14.9
TN18-4032	16.0	11.7	16.0	12	13	12.5	11.8	13.4
Mean	16.2	12.6	15.7	13	13	12.4	12.9	13.6
LSD(0.05)	.	1.2	1.7	2	.	3.0	1.3	0.9
CV(%)	.	4.4	4.6	6	0	10.4	4.9	7.0

TABLE 36 - OIL (%)†
PRELIMINARY GROUP IV-S-EARLY 2019

STRAIN/ VARIETY	Columbia, MO	Jackson, TN	Keiser, AR	Kibler, AR	Knoxville, TN	Orange, VA	Portageville, MO(B)	Test Mean
AG 4135	19.8	20.3	20.4	19.6	20.7	18.6	19.4	19.8
LD06-7620	.	.	.	.	.	.	.	.
AG 43X7	.	.	.	.	.	.	.	.
AG 39X7	19.3	19.7	19.4	19.4	19.5	17.6	16.9	18.8
JTN-4119	20.7	20.8	21.7	20.3	22.0	19.1	20.4	20.7
DA13086-011F	18.4	18.8	19.1	18.6	19.9	18.8		19.0
DA13076-042F	19.1	18.9	18.4	18.9	20.5	19.8	20.1	19.4
JTN-4219	20.7	21.0	20.8	20.4	22.2	18.7	20.5	20.6
JTN-4619	18.1	18.5	19.5	19.2	19.8	18.5	20.4	19.1
S09-13608C	18.0	19.0	19.1	18.7	19.9	18.8	20.9	19.2
S15-6047RY	19.6	19.9	.	21.2	20.9	19.1	22.4	20.6
S16-14161C	20.2	19.9	21.0	20.2	20.5	18.7	19.6	20.0
S16-9892C	19.6	20.5	20.0	19.9	20.8	19.8	20.3	20.1
S17-19874R	18.1	18.6	18.6	18.4	19.5	18.4	20.6	18.9
SA16-10735	20.3	21.1	21.3	20.2	20.6	17.4	19.6	20.1
SA16-11227	18.6	19.4	19.7	19.0	19.4	.	19.0	19.0
SA16-12348	18.6	19.3	19.2	19.4	19.5	.	19.5	19.1
TN18-4032	19.4	19.7	18.8	19.5	20.1	19.2	20.3	19.6
Mean	19.3	19.7	19.8	19.6	20.4	18.7	20.0	19.6
LSD(0.05)	.	.	.	.	.	.	.	0.7
CV(%)	.	.	.	.	.	.	.	3.5

†Oil percentage is reported on a 13% moisture basis beginning in 2015.

TABLE 37 - PROTEIN (%)†
PRELIMINARY GROUP IV-S-EARLY 2019

STRAIN/ VARIETY	Columbia, MO	Jackson, TN	Keiser, AR	Kibler, AR	Knoxville, TN	Orange, VA	Portageville, MO(B)	Test Mean
AG 4135	35.1	37.3	35.6	37.0	35.4	36.9	36.3	36.2
LD06-7620	.	.	.	.	.	.	.	.
AG 43X7	.	.	.	.	.	.	.	.
AG 39X7	33.9	35.3	36.0	35.6	35.6	38.3	31.7	35.2
JTN-4119	33.3	33.7	32.0	34.1	30.8	35.0	32.6	33.1
DA13086-011F	36.6	37.6	37.8	37.0	34.8	34.7	.	36.2
DA13076-042F	34.5	36.1	37.1	37.2	32.5	32.4	32.4	34.6
JTN-4219	33.0	33.6	33.2	34.5	30.4	34.6	32.3	33.1
JTN-4619	36.8	37.5	35.6	36.2	33.2	33.7	33.3	35.2
S09-13608C	35.8	35.8	34.9	34.6	33.3	34.3	27.6	33.8
S15-6047RY	35.6	35.5	.	34.0	34.1	35.4	32.4	34.5
S16-14161C	36.5	35.2	32.9	35.6	34.3	35.5	35.6	35.1
S16-9892C	34.2	34.1	34.0	35.7	33.2	33.8	33.9	34.1
S17-19874R	39.9	38.7	39.4	40.0	37.5	37.8	35.8	38.5
SA16-10735	33.9	34.5	34.3	35.6	33.8	37.8	34.7	34.9
SA16-11227	36.7	36.6	35.1	37.7	35.5	.	35.4	36.2
SA16-12348	35.0	36.3	36.6	38.1	35.3	.	35.2	36.1
TN18-4032	36.5	37.2	38.1	37.5	36.4	35.9	36.1	36.8
Mean	35.4	35.9	35.5	36.3	34.1	35.4	33.7	35.2
LSD(0.05)	.	.	.	.	.	.	.	1.4
CV(%)	.	.	.	.	.	.	.	3.6

†Protein percentage is reported on a 13% moisture basis beginning in 2015.

TABLE 38 - ESTIMATED MEAL PROTEIN (%)†
PRELIMINARY GROUP IV-S-EARLY 2019

STRAIN/ VARIETY	Columbia, MO	Jackson, TN	Keiser, AR	Kibler, AR	Knoxville, TN	Orange, VA	Portageville, MO(B)	Test Mean
AG 4135	47.6	50.8	48.5	50.0	48.5	49.2	49.0	49.1
LD06-7620	.	.	.	.	.	.	.	.
AG 43X7	.	.	.	.	.	.	.	.
AG 39X7	45.6	47.7	48.6	48.0	48.0	50.5	41.4	47.1
JTN-4119	45.6	46.2	44.4	46.5	43.0	46.9	44.5	45.3
DA13086-011F	48.8	50.3	50.7	49.4	47.2	46.4	.	48.5
DA13076-042F	46.3	48.4	49.3	49.9	44.5	43.9	44.0	46.6
JTN-4219	45.3	46.2	45.5	47.2	42.5	46.3	44.1	45.3
JTN-4619	48.9	50.0	48.0	48.7	45.1	44.9	45.5	47.3
S09-13608C	47.5	48.0	46.9	46.2	45.2	45.9	37.9	45.4
S15-6047RY	48.1	48.2	.	46.8	46.9	47.6	45.4	47.2
S16-14161C	49.7	47.8	45.2	48.5	46.9	47.4	48.2	47.7
S16-9892C	46.2	46.5	46.2	48.4	45.5	45.7	46.3	46.4
S17-19874R	52.9	51.7	52.6	53.3	50.7	50.3	49.0	51.5
SA16-10735	46.2	47.5	47.4	48.5	46.3	49.7	46.9	47.5
SA16-11227	48.9	49.3	47.5	50.6	47.9	.	47.5	48.6
SA16-12348	46.8	48.8	49.2	51.4	47.7	.	47.6	48.6
TN18-4032	49.1	50.4	51.0	50.6	49.5	48.4	49.2	49.7
Mean	47.7	48.6	48.1	49.0	46.6	47.4	45.8	47.6
LSD(0.05)	.	.	.	.	.	.	.	1.6
CV(%)	.	.	.	.	.	.	.	3.2

†Estimated meal protein percentage is reported on a 13% moisture basis.

SUMMARY OF SEED FATTY ACIDS (%)
PRELIMINARY TEST IV-S-EARLY 2019 †

STRAIN/ VARIETY	Palmitic Acid	Stearic Acid	Oleic Acid	Linoleic Acid	Linolenic Acid
AG 43X7	11.0	4.1	26.0	53.0	6.5
LD06-7620	12.0	4.3	23.0	54.0	6.7
AG 4135	12.0	4.2	27.0	51.0	5.9
TN18-4032	6.9	3.3	84.0	3.1	2.3
Mean	10.0	4.0	40.0	40.0	5.4
LSD(0.05)	0.4	0.3	4.0	3.5	0.6
CV(%)	2.8	6.6	7.9	6.9	8.2

†Fatty acid percentage in seed oil reported beginning in 2017.

SEED PALMITIC ACID (%)
PRELIMINARY GROUP IV-S-EARLY 2019

STRAIN/ VARIETY	Columbia, MO	Jackson, TN	Keiser, AR	Kibler, AR	Knoxville, TN	Portageville, MO(B)	Test Mean
AG 43X7	11.0	11.5	10.7	11.2	11.2	11.3	11.1
LD06-7620	12.1	11.6	12.2	12.2	11.5	11.7	11.9
AG 4135	12.2	11.5		11.3	11.2	11.9	11.6
TN18-4032	6.8	6.7	7.1	7.0	6.9	6.9	6.9
Mean	10.5	10.3	10.0	10.4	10.2	10.4	10.4
LSD(0.05)	.	.	.	.	.	.	0.4
CV(%)	.	.	.	.	.	.	2.8

SEED STEARIC ACID (%)
PRELIMINARY GROUP IV-S-EARLY 2019

STRAIN/ VARIETY	Columbia, MO	Jackson, TN	Keiser, AR	Kibler, AR	Knoxville, TN	Portageville, MO(B)	Test Mean
AG 43X7	3.9	4.2	4.2	3.8	4.0	4.1	4.1
LD06-7620	4.0	4.2	4.1	4.2	4.7	4.7	4.3
AG 4135	3.7	4.3		3.6	5.1	4.5	4.2
TN18-4032	3.1	3.3	3.5	3.3	3.3	3.2	3.3
Mean	3.7	4.0	4.0	3.7	4.3	4.1	4.0
LSD(0.05)	.	.	.	.	.	.	0.3
CV(%)	.	.	.	.	.	.	6.6

SEED OLEIC ACID (%)
PRELIMINARY GROUP IV-S-EARLY 2019

STRAIN/ VARIETY	Columbia, MO	Jackson, TN	Keiser, AR	Kibler, AR	Knoxville, TN	Portageville, MO(B)	Test Mean
AG 43X7	27.0	25.5	29.3	24.6	26.4	21.9	25.8
LD06-7620	20.6	21.2	21.8	22.6	29.8	24.0	23.3
AG 4135	22.4	26.8		28.9	36.0	20.0	26.9
TN18-4032	83.5	85.2	84.3	85.0	84.3	84.3	84.4
Mean	38.4	39.6	45.1	40.3	44.1	37.6	40.1
LSD(0.05)	.	.	.	.	.	.	4.0
CV(%)	.	.	.	.	.	.	7.9

SEED LINOLEIC ACID (%)
PRELIMINARY GROUP IV-S-EARLY 2019

STRAIN/ VARIETY	Columbia, MO	Jackson, TN	Keiser, AR	Kibler, AR	Knoxville, TN	Portageville, MO(B)	Test Mean
AG 43X7	50.7	52.6	50.0	54.4	51.9	55.6	52.5
LD06-7620	55.2	56.2	55.1	54.6	48.1	53.2	53.7
AG 4135	54.3	52.0		50.6	42.7	57.3	51.3
TN18-4032	3.9	2.7	2.7	2.7	3.2	3.3	3.1
Mean	41.0	40.9	35.9	40.6	36.5	42.3	40.2
LSD(0.05)	.	.	.	.	.	.	3.5
CV(%)	.	.	.	.	.	.	6.9

SEED LINOLENIC ACID (%)
PRELIMINARY GROUP IV-S-EARLY 2019

STRAIN/ VARIETY	Columbia, MO	Jackson, TN	Keiser, AR	Kibler, AR	Knoxville, TN	Portageville, MO(B)	Test Mean
AG 43X7	7.3	6.1	5.8	6.0	6.5	7.1	6.5
LD06-7620	8.0	6.8	6.8	6.4	5.9	6.4	6.7
AG 4135	7.5	5.4		5.6	5.0	6.3	5.9
TN18-4032	2.7	2.3	2.4	2.1	2.3	2.3	2.3
Mean	6.3	5.2	5.0	5.0	4.9	5.5	5.4
LSD(0.05)	.	.	.	.	.	.	0.6
CV(%)	.	.	.	.	.	.	8.2

TABLE 39 - PARENTAGE OF ENTRIES
PRELIMINARY GROUP IV-S-LATE 2019

Ent	Strain/Variety	Parentage	Source	Fn	Trans-genic†	Special Traits‡
1	Ellis	5002T x 5601T	Commercial		Conv	
2	AG 4632RR2Y	Commercial check	Commercial		RR2	
3	AG 46X7	Commercial check	Commercial		RRX	
4	AG49X6	Commercial check	Commercial		RRX	
5	DA13099-008F	DA07c22-23 x 5002T	Gillen		Conv	25% PI 587880A
6	DS1169-512	DS25-1 x Osage	Rusty Smith	F5	Conv	high germinability
7	DS1260-260	(PI 587982A x DT97-4290) x LD00-3309	Rusty Smith	F5	Conv	high germinability
8	K14-1717-1	NCC05-1261 / 435.TCS	Schapaugh	F5	Conv	
9	K16-1787	KS5004N/R05-374	Schapaugh	F5	Conv	
10	K16-1797	KS5004N/R05-374	Schapaugh	F5	Conv	
11	K16-2016	KS5004N/K07-1633	Schapaugh	F5	Conv	
12	K16-2105	KS5004N/435.TCS	Schapaugh	F5	Conv	
13	S16-5503R	S11-16653 x S11-20337RR1	Chen		RR1	RKN, SCN-3, Excluder
14	S16-7840C	S11-16653 x S11-20124	Chen		Conv	RKN, Excluder
15	S16-8898C	R09-430 x S11-20124	Chen		Conv	RKN, Excluder
16	S16-14457C	S08-17361 x S09-13185	Chen		Conv	
17	S16-14801C	S11-16653 x S11-20124	Chen		Conv	RKN, Excluder
18	S16-14928C	S11-16653 x S11-20124	Chen		Conv	RKN, Excluder
19	TN15-4009	TN09-016 x S05-11482	Pantalone		Conv	
20	TN17-3756R1	Ellis[2] x TN13-4730R1	Pantalone		RR1	
21	TN17-4416	S09-14175 x Ellis	Pantalone		Conv	
22	TN17-5023	TN09-008 x Ellis	Pantalone		Conv	
23	TN18-4105	Ellis(4) x TN13-5001-ln x Ellis(4) x TN10-4037-HO	Pantalone		Conv	HOLN
24	TN18-4108	Ellis(4) x TN13-5001-ln x Ellis(4) x TN10-4037-HO	Pantalone		Conv	HOLN
25	V14-2288	V07-0873 x V03-4705	Zhang	F4	Conv	
26	V15-0057DI	Ozark x PI 200508	Zhang	F4	Conv	50 % (PI 200508)
27	V15-1407DI	Glenn x G08-PR-394	Zhang	F4	Conv	12.5 % (PI 423912)
28	V15-2259ST	Hanover x V09-0673	Zhang	F4	Conv	
29	V15-2287ST	NCC06-339 x V09-0673	Zhang	F4	Conv	
30	V16-0293	S08-17361 x JTN-4307	Zhang	F4	Conv	
31	V16-2197R	V01-1693 x S07-10311	Zhang	F4	RR1	

†Conv= Conventional(non-transgenic),LL= Liberty Link®, RR1= Roundup Ready®, RR2= Roundup Ready 2 Yield®, and RRX= Roundup Ready 2 Xtend®

‡AA= modified amino acids, DNC= Do not cross with this, FLS= Frogeye leaf spot resistance, LJ= Long juvenile, LN= low linolenic acid, LP= low phytate, HO= high oleic acid, HOLN= high oleic acid/low linolenic acid, SCN= Soybean cyst nematode resistance, SR= Soybean rust resistance, and STS= sulfonylurea tolerant

TABLE 40 - GENERAL SUMMARY OF PERFORMANCE
PRELIMINARY TEST IV-S-LATE 2019

STRAIN/ VARIETY	SEED YIELD†	RANK	AVG. RANK	MAT. INDEX	LOD	HT	SCN Cyst Score (1-5)‡ Race 2	Race 3	Race 5	SC RATING	SC SCORE
Ellis	62.0	10	10	0	1.3	26	3	3	4	R	1
AG 4632RR2Y §	.	.	.	.	.	.	.	3	4	MR	2
AG 46X7 §	.	.	.	.	.	.	.	.	.	R	1
AG49X6	67.5	1	5	-1	1.4	36	3	3	5	R	1
DA13099-008F	62.9	7	10	1	1.7	27	3	4	5	R	1
DS1169-512	54.8	27	24	-2	2.9	38	3	3	4	MS	4
DS1260-260	58.9	21	17	-5	2.4	37	4	2	4	R	1
K14-1717-1	61.0	11	13	-4	1.7	24	4	3	5	R	1
K16-1787	60.6	14	15	-4	1.6	32	4	2	5	R	1
K16-1797	59.9	17	15	-4	2.0	36	4	2	5	R	1
K16-2016	54.7	28	23	-6	2.2	30	4	2	4	SS	3
K16-2105	56.7	25	19	-5	1.1	24	3	1	2	R	1
S16-5503R	65.9	4	8	-2	2.1	33	1	1	1	MS	4
S16-7840C	67.3	2	5	1	2.3	36	1	2	2	R	1
S16-8898C	62.1	8	12	-2	2.4	33	1	1	1	S	5
S16-14457C	58.6	22	19	-1	2.3	34	2	3	2	R	1
S16-14801C	66.5	3	5	0	1.7	28	3	3	2	R	1
S16-14928C	62.9	6	12	1	2.0	29	3	2	3	R	1
TN15-4009	55.3	26	21	-1	1.6	26	1	1	1	SS	3
TN17-3756R1	57.3	24	20	-4	1.5	30	3	3	4	R	1
TN17-4416	60.7	13	14	-3	1.2	26	2	1	2	R	1
TN17-5023	60.1	15	15	2	1.5	27	4	4	5	R	1
TN18-4105	59.7	19	16	-2	1.1	24	4	3	5	R	1
TN18-4108	50.3	29	27	1	1.6	31	3	3	4	R	1
V14-2288	59.0	20	19	-5	1.4	28	3	3	5	S	5
V15-0057DI	62.0	9	14	-4	1.6	30	4	3	4	R	1
V15-1407DI	60.7	12	14	-2	1.1	25	4	4	5	R	1
V15-2259ST	60.1	16	16	-1	1.1	30	3	2	4	R	1
V15-2287ST	59.7	18	16	-6	1.2	29	5	3	5	S	5
V16-0293	63.8	5	13	-1	2.1	38	3	2	5	R	1
V16-2197R	57.8	23	21	-4	1.5	30	4	3	5	R	1
Mean	60.3	.	.	-2	1.7	30	.	.	.		.
LSD(0.05)	6.8	.	.	4	0.9	4	.	.	.		.
CV(%)	9.6	.	.	199	46.8	11	.	.	.		.

†Data not included in the mean: Kibler,AR.

‡The race 2, 3, and 5 SCN populations used in these tests were typed as HG (Heterodera glycines) Type 1.2.5.7, HG Type 5.7, and HG Type 2.5.7, respectively.

§ Data from these checks in 2019 were omitted due to poor seed quality. The 18-19 means are actually the 2018 mean and the 17-19 means are actually the means of 2017 and 2018.

TABLE 41 - GENERAL SUMMARY OF PERFORMANCE (continued)
PRELIMINARY TEST IV-S-LATE 2019

STRAIN/ VARIETY	SEED QUALITY	SEED SIZE	PROTEIN§ %	OIL§ %	MEAL PRO%	FL COLOR	PUB. COLOR	POD COLOR
Ellis	2.0	11.3	36.0	18.9	48.3	W	G	T
AG 4632RR2Y	.	.	.	.	.	P	G	Br
AG 46X7	.	.	.	.	.			
AG49X6	2.0	13.0	34.8	19.9	47.2			
DA13099-008F	1.8	14.6	36.0	19.3	48.5			
DS1169-512	2.2	10.9	36.6	18.4	48.8	W	G	T
DS1260-260	2.5	11.4	36.3	18.6	48.5	P	G	T
K14-1717-1	2.3	15.1	36.6	19.4	49.3			
K16-1787	1.9	11.2	34.8	20.3	47.5			
K16-1797	1.9	12.7	33.8	20.6	46.2			
K16-2016	2.4	12.7	35.5	19.6	47.9			
K16-2105	2.1	13.6	36.4	19.3	49.0			
S16-5503R	2.2	13.6	35.5	19.4	47.9	W	T	T
S16-7840C	2.3	13.9	34.3	19.8	46.4	W	T	T
S16-8898C	1.9	14.0	34.2	20.6	46.8	P	T	T
S16-14457C	2.7	14.7	35.2	19.6	47.5	P	T	Br
S16-14801C	2.0	13.6	34.6	19.6	46.8	P	T	T
S16-14928C	1.7	12.8	34.2	19.8	46.4	W	T	T
TN15-4009	1.8	12.6	33.7	20.4	46.0	W	T	
TN17-3756R1	2.0	11.4	34.9	19.6	47.1	W	G	
TN17-4416	2.0	12.2	35.0	19.4	47.2	W	G	
TN17-5023	2.4	13.9	36.2	18.0	48.0	P	G	
TN18-4105	1.8	13.1	36.1	19.6	48.8	W	G	
TN18-4108	2.3	13.0	36.9	19.7	50.0	W	G	
V14-2288	3.1	14.5	38.0	19.3	51.2	P	T	
V15-0057DI	2.0	14.5	34.8	19.5	47.0	P	G	
V15-1407DI	2.3	13.4	35.8	19.5	48.4	W	T	
V15-2259ST	2.1	11.8	37.7	17.8	49.8	P	G	
V15-2287ST	2.1	13.0	36.2	18.6	48.4	P	T	
V16-0293	2.3	15.9	34.0	20.3	46.4	W	T	
V16-2197R	2.0	13.4	35.4	19.7	47.9	W	T	
Mean	2.1	13.2	35.5	19.5	47.9			
LSD(0.05)	0.6	1.0	0.9	0.6	1.1			
CV(%)	27.2	6.3	2.1	2.3	1.8			

§Protein percentage and oil percentage are reported on a 13% moisture basis beginning in 2015.

TABLE 42 - SEED YIELD (BUSHELS PER ACRE)
PRELIMINARY GROUP IV-S-LATE 2019 †

STRAIN/ VARIETY	*Jackson, TN*	*Kibler, AR*	*Knoxville, TN*	*Pittsburg, KS*	*Portageville, MO(B)*	*Test Mean*
Ellis	65.3	60.4	86.7	51.5	44.7	62.0
AG 4632RR2Y	.	.	.	.	.	.
AG 46X7	.	.	.	.	.	.
AG49X6	67.4	53.0	84.8	62.6	55.4	67.5
DA13099-008F	71.3	71.1	80.9	51.1	48.3	62.9
DS1169-512	57.5	59.5	75.8	47.6	38.3	54.8
DS1260-260	63.2	49.5	69.5	51.3	51.5	58.9
K14-1717-1	67.9	65.6	82.7	50.7	43.0	61.0
K16-1787	63.9	65.2	84.0	46.9	47.7	60.6
K16-1797	65.5	55.4	87.4	43.4	43.4	59.9
K16-2016	53.0	61.8	74.7	48.9	42.4	54.7
K16-2105	57.3	51.4	82.3	52.8	34.4	56.7
S16-5503R	69.4	71.1	80.7	57.2	56.3	65.9
S16-7840C	71.1	70.2	86.2	52.1	60.1	67.3
S16-8898C	66.2	56.6	79.9	54.7	47.7	62.1
S16-14457C	64.2	60.0	79.6	48.4	42.1	58.6
S16-14801C	70.9	58.9	83.4	55.2	56.5	66.5
S16-14928C	70.5	60.5	84.8	44.7	51.6	62.9
TN15-4009	62.2	57.6	69.3	53.1	36.4	55.3
TN17-3756R1	61.8	60.5	73.4	50.5	43.6	57.3
TN17-4416	62.7	57.5	81.8	52.2	46.1	60.7
TN17-5023	64.3	59.5	86.0	47.1	43.2	60.1
TN18-4105	66.8	48.3	82.4	50.4	39.3	59.7
TN18-4108	54.5	46.5	74.4	45.1	27.1	50.3
V14-2288	58.7	38.9	80.7	45.4	51.3	59.0
V15-0057DI	63.6	54.1	80.9	48.9	54.7	62.0
V15-1407DI	64.8	43.8	87.6	45.1	45.4	60.7
V15-2259ST	64.3	61.7	78.6	56.4	41.1	60.1
V15-2287ST	58.7	50.0	88.6	45.9	45.9	59.7
V16-0293	63.9	64.8	85.6	44.2	61.7	63.8
V16-2197R	61.3	55.6	82.6	46.3	40.8	57.8
Mean	63.9	57.6	81.2	50.0	46.2	60.3
LSD(0.05)	7.5	27.6	11.4	3.9	12.0	6.8
CV(%)	5.8	21.5	6.9	3.8	12.7	9.6

†Data not included in the mean: Kibler,AR.

TABLE 43 - RELATIVE MATURITY (DAYS EARLIER (-) OR LATER (+) THAN ENTRY 1)
PRELIMINARY GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Jackson, TN	Kibler, AR	Knoxville, TN	Pittsburg, KS	Portageville, MO(B)	Test Mean
Ellis	9/30	10/1	9/29	11/1	10/14	10/9
AG 4632RR2Y	.	.	.	.	.	.
AG 46X7	.	.	.	.	.	.
AG49X6	4	-3	0	-2	-5	-1
DA13099-008F	4	-4	0	2	0	1
DS1169-512	2	-3	1	-1	-9	-2
DS1260-260	-10	-4	-3	-4	-6	-5
K14-1717-1	-3	-4	-2	-2	-8	-4
K16-1787	-3	-4	-3	-4	-7	-4
K16-1797	-3	-6	-1	-5	-7	-4
K16-2016	-9	-5	-5	-4	-7	-6
K16-2105	-3	-3	-4	-7	-7	-5
S16-5503R	-1	-4	-2	0	-1	-2
S16-7840C	4	-1	1	3	0	1
S16-8898C	-3	-4	-3	0	-3	-2
S16-14457C	-5	16	-3	-7	-6	-1
S16-14801C	4	-4	1	3	-3	0
S16-14928C	4	-3	1	6	-3	1
TN15-4009	2	-3	0	-4	0	-1
TN17-3756R1	-1	-16	1	-2	-2	-4
TN17-4416	-1	-4	-2	-5	-5	-3
TN17-5023	0	4	3	1	3	2
TN18-4105	-1	-4	0	-2	0	-2
TN18-4108	-3	16	-1	-2	-3	1
V14-2288	-7	-7	-4	-6	-3	-5
V15-0057DI	-3	-6	-4	-2	-7	-4
V15-1407DI	-1	-4	0	-1	-3	-2
V15-2259ST	-1	-3	2	1	-3	-1
V15-2287ST	-3	-16	-2	-4	-3	-6
V16-0293	-3	2	-2	0	0	-1
V16-2197R	-3	-5	-3	-6	-4	-4
Mean	-2	-3	-1	-2	-4	-2
LSD(0.05)	3	14	2	4	3	4
CV(%)	96	249	86	107	36	199

TABLE 44 - PLANT HEIGHT (INCHES)
PRELIMINARY GROUP IV-S-LATE 2019

STRAIN/ VARIETY	*Jackson, TN*	*Kibler, AR*	*Knoxville, TN*	*Pittsburg, KS*	*Portageville, MO(B)*	*Test Mean*
Ellis	28	27	28	32	18	26
AG 4632RR2Y	.	.	.	.	.	.
AG 46X7	.	.	.	.	.	.
AG49X6	41	33	35	39	32	36
DA13099-008F	33	23	24	32	21	27
DS1169-512	44	38	43	40	25	38
DS1260-260	41	50	37	33	26	37
K14-1717-1	28	23	26	28	18	24
K16-1787	37	32	34	36	21	32
K16-1797	42	32	41	36	29	36
K16-2016	32	29	35	30	23	30
K16-2105	28	24	27	27	17	24
S16-5503R	35	34	39	33	23	33
S16-7840C	37	37	40	41	27	36
S16-8898C	36	32	38	35	24	33
S16-14457C	40	41	36	33	21	34
S16-14801C	31	29	34	33	16	28
S16-14928C	33	26	33	35	20	29
TN15-4009	31	26	26	28	21	26
TN17-3756R1	35	31	31	32	20	30
TN17-4416	31	25	27	30	20	26
TN17-5023	32	28	31	30	17	27
TN18-4105	27	21	27	29	17	24
TN18-4108	28	37		33	25	31
V14-2288	33	26	30	30	22	28
V15-0057DI	34	27	33	33	22	30
V15-1407DI	30	24	31	26	17	25
V15-2259ST	31	33	32	33	20	30
V15-2287ST	34	27	35	31	20	29
V16-0293	40	41	44	36	32	38
V16-2197R	32	28	34	34	22	30
Mean	34	30	33	32	22	30
LSD(0.05)	4	8	5	6	5	4
CV(%)	6	12	7	9	11	11

TABLE 40 - PLANT LODGING (1-5)
PRELIMINARY GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Jackson, TN	Kibler, AR	Knoxville, TN	Pittsburg, KS	Portageville, MO(B)	Test Mean
Ellis	1.5	0.0	2.0	2.0	1.0	1.3
AG 4632RR2Y	.	.	.	.	.	.
AG 46X7	.	.	.	.	.	.
AG49X6	2.0	0.5	2.5	1.0	1.0	1.4
DA13099-008F	2.0	0.5	2.0	3.0	1.0	1.7
DS1169-512	3.0	3.0	4.0	3.5	1.0	2.9
DS1260-260	2.5	5.0	2.5	1.0	1.0	2.4
K14-1717-1	2.5	0.0	2.3	3.0	1.0	1.7
K16-1787	2.5	0.0	2.3	2.5	1.0	1.6
K16-1797	3.0	0.0	3.0	3.0	1.0	2.0
K16-2016	3.5	1.0	3.0	2.5	1.0	2.2
K16-2105	1.0	0.0	2.0	1.5	1.0	1.1
S16-5503R	2.5	0.0	3.8	3.5	1.0	2.1
S16-7840C	3.5	0.5	3.3	3.5	1.0	2.3
S16-8898C	3.0	0.5	3.5	4.0	1.0	2.4
S16-14457C	2.5	3.5	2.8	1.5	1.5	2.3
S16-14801C	2.0	0.0	2.3	3.5	1.0	1.7
S16-14928C	2.5	0.5	2.3	4.0	1.0	2.0
TN15-4009	2.0	0.0	1.8	3.5	1.0	1.6
TN17-3756R1	2.0	0.0	2.0	2.5	1.0	1.5
TN17-4416	1.5	0.0	1.8	2.0	1.0	1.2
TN17-5023	1.5	1.5	1.5	2.0	1.0	1.5
TN18-4105	1.0	0.0	1.5	2.0	1.0	1.1
TN18-4108	2.0	0.5	2.0	2.5	1.0	1.6
V14-2288	2.5	0.0	2.3	1.5	1.0	1.4
V15-0057DI	1.5	0.0	2.5	3.0	1.0	1.6
V15-1407DI	1.5	0.0	2.3	1.0	1.0	1.1
V15-2259ST	1.0	0.0	2.3	1.5	1.0	1.1
V15-2287ST	1.5	0.0	2.3	1.5	1.0	1.2
V16-0293	2.5	2.5	3.0	1.5	1.0	2.1
V16-2197R	1.5	0.0	2.2	3.0	1.0	2
Mean	2.1	0.7	2.4	2.4	1.0	1.7
LSD(0.05)	1.1	1.2	0.6	1.1	0.3	0.9
CV(%)	25.3	87.0	11.1	22.9	12.9	46.8

TABLE 46 - SEED QUALITY (1-5)
PRELIMINARY GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Jackson, TN	Kibler, AR	Knoxville, TN	Pittsburg, KS	Portageville, MO(B)	Test Mean
Ellis	1.0	2.5	2.0	2.0	2.0	2.0
AG 4632RR2Y	.	.	.	.	.	.
AG 46X7	.	.	.	.	.	.
AG49X6	1.5	2.5	1.0	2.0	3.0	2.0
DA13099-008F	1.0	2.0	2.0	2.0	2.0	1.8
DS1169-512	2.0	2.0	2.0	3.0	2.5	2.2
DS1260-260	2.0	3.5	2.0	2.0	3.0	2.5
K14-1717-1	2.0	3.0	2.0	2.0	2.5	2.3
K16-1787	2.0	1.5	2.0	2.0	2.0	1.9
K16-1797	1.5	2.0	2.0	2.0	2.0	1.9
K16-2016	3.0	2.5	2.0	2.0	2.5	2.4
K16-2105	2.0	2.5	2.0	2.0	2.0	2.1
S16-5503R	2.0	3.0	1.0	2.0	3.0	2.2
S16-7840C	2.0	2.5	2.0	3.0	2.5	2.3
S16-8898C	2.0	2.5	1.0	2.0	2.0	1.9
S16-14457C	3.0	4.0	2.0	1.0	3.0	2.7
S16-14801C	1.5	1.5	2.0	2.0	3.0	2.0
S16-14928C	1.5	2.0	1.0	2.0	2.0	1.7
TN15-4009	2.0	2.0	1.0	2.0	2.0	1.8
TN17-3756R1	2.0	2.0	2.0	2.0	2.0	2.0
TN17-4416	2.0	1.5	2.0	2.0	2.5	2.0
TN17-5023	2.0	3.0	2.0	2.0	3.0	2.4
TN18-4105	1.0	1.5	2.0	2.0	2.5	1.8
TN18-4108	2.0	3.0	2.0	2.0	2.5	2.3
V14-2288	3.0	3.5	3.0	3.0	3.0	3.1
V15-0057DI	2.0	1.5	2.0	3.0	2.0	2.0
V15-1407DI	2.0	2.5	2.0	2.0	3.0	2.3
V15-2259ST	2.0	2.0	2.0	2.0	2.5	2.1
V15-2287ST	1.0	2.0	2.0	2.0	3.0	2.1
V16-0293	2.5	3.5	1.0	1.0	3.0	2.3
V16-2197R	2.0	2.0	2.0	2.0	2.0	2
Mean	1.9	2.4	1.8	2.1	2.5	2.1
LSD(0.05)	0.7	1.8	.	.	0.9	0.6
CV(%)	16.0	37.6	0.0	.	18.3	27.2

TABLE 47 - SEED SIZE (GRAMS PER 100 SEED)
PRELIMINARY GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Jackson, TN	Kibler, AR	Knoxville, TN	Pittsburg, KS	Portageville, MO(B)	Test Mean
Ellis	10.4	10.8	11.7	9.8	13.4	11.3
AG 4632RR2Y	.	.	.	.	.	.
AG 46X7	.	.	.	.	.	.
AG49X6	13.0	12.4	11.7	14.0	14.3	13.0
DA13099-008F	14.8	13.0	13.9	14.3	17.0	14.6
DS1169-512	11.0	9.3	11.5	10.3	12.4	10.9
DS1260-260	10.8	10.4	11.3	12.3	12.2	11.4
K14-1717-1	14.2	14.7	15.7	16.3	15.0	15.1
K16-1787	10.2	10.8	11.5	11.5	12.2	11.2
K16-1797	12.5	11.5	13.0	13.2	13.3	12.7
K16-2016	11.6	13.4	12.1	12.8	13.8	12.7
K16-2105	13.1	14.0	13.3	13.1	14.1	13.6
S16-5503R	13.5	12.6	13.4	12.7	15.6	13.6
S16-7840C	13.6	12.5	13.7	14.2	15.7	13.9
S16-8898C	13.4	12.5	13.9	14.3	15.7	14.0
S16-14457C	14.0	15.4	13.7	15.4	15.3	14.7
S16-14801C	14.2	12.1	13.1	12.6	16.1	13.6
S16-14928C	12.7	11.2	12.8	12.3	14.7	12.8
TN15-4009	12.3	12.3	11.6	12.3	14.6	12.6
TN17-3756R1	10.5	11.6	10.8	10.5	13.3	11.4
TN17-4416	11.9	11.7	12.0	12.3	13.0	12.2
TN17-5023	13.8	13.4	14.1	12.0	16.0	13.9
TN18-4105	12.3	13.5	13.3	13.5	13.1	13.1
TN18-4108	12.1	13.3	13.1	13.2	13.1	13.0
V14-2288	13.9	12.6	13.7	16.1	16.3	14.5
V15-0057DI	14.5	13.2	14.6	15.1	15.4	14.5
V15-1407DI	12.4	12.1	13.5	13.1	16.1	13.4
V15-2259ST	11.8	10.3	10.9	13.1	13.0	11.8
V15-2287ST	11.6	11.6	12.9	13.6	15.2	13.0
V16-0293	15.3	14.4	15.6	17.6	16.9	15.9
V16-2197R	13.1	12.7	13.2	14.0	14.2	13.4
Mean	12.7	12.4	13.0	13.3	14.5	13.2
LSD(0.05)	0.8	1.6	.	.	1.1	1.0
CV(%)	2.8	6.1	0.0	.	3.6	6.3

TABLE 48 - OIL (%)†
PRELIMINARY GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Jackson, TN	Kibler, AR	Knoxville, TN	Pittsburg, KS	Portageville, MO(B)	Test Mean
Ellis	19.3	19.0	19.6	17.7	18.8	18.9
AG 4632RR2Y	.	.	.	.	.	.
AG 46X7	.	.	.	.	.	.
AG49X6	20.0	19.7	20.6	18.8	20.6	19.9
DA13099-008F	19.9	19.6	18.7	18.2	20.2	19.3
DS1169-512	18.6	18.1	19.2	16.6	19.6	18.4
DS1260-260	18.5	18.3	19.2	18.0	18.9	18.6
K14-1717-1	19.1	19.0	21.3	18.2	19.2	19.4
K16-1787	20.1	19.9	21.0	19.6	21.1	20.3
K16-1797	21.0	20.5	21.6	18.5	21.3	20.6
K16-2016	19.9	20.1	20.5	16.9	20.7	19.6
K16-2105	19.4	19.0	20.2	18.5	19.2	19.3
S16-5503R	19.2	18.8	20.8	18.6	19.9	19.4
S16-7840C	19.8	19.6	21.4	18.0	20.2	19.8
S16-8898C	20.5	20.7	20.7	19.9	20.9	20.6
S16-14457C	19.7	19.3	20.8	18.4	19.7	19.6
S16-14801C	19.5	19.7	20.8	18.0	20.2	19.6
S16-14928C	19.7	19.7	21.2	18.2	20.4	19.8
TN15-4009	20.4	20.8	20.7	19.2	20.7	20.4
TN17-3756R1	20.0	19.3	20.1	18.4	20.1	19.6
TN17-4416	19.6	19.2	.	18.4	19.8	19.4
TN17-5023	18.4	18.1	18.4	17.0	17.8	18.0
TN18-4105	20.2	19.7	19.5	18.8	19.8	19.6
TN18-4108	19.8	19.4	20.3	18.9	20.2	19.7
V14-2288	19.6	19.0	20.4	18.6	18.8	19.3
V15-0057DI	19.8	19.1	20.4	18.4	19.9	19.5
V15-1407DI	19.5	19.2	20.0	18.5	20.2	19.5
V15-2259ST	17.8	17.7	18.1	16.9	18.4	17.8
V15-2287ST	18.9	17.9	19.2	17.8	19.3	18.6
V16-0293	20.6	20.3	21.2	19.4	20.2	20.3
V16-2197R	19.2	19.5	20.7	19.0	20.4	19.7
Mean	19.6	19.3	20.2	18.3	19.9	19.5
LSD(0.05)	.	.	.	.	.	0.6
CV(%)	.	.	.	.	.	2.3

†Oil percentage is reported on a 13% moisture basis beginning in 2015.

TABLE 49 - PROTEIN (%)†
PRELIMINARY GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Jackson, TN	Kibler, AR	Knoxville, TN	Pittsburg, KS	Portageville, MO(B)	Test Mean
Ellis	35.8	36.6	36.1	36.7	35.1	36.0
AG 4632RR2Y	.	.	.	.	.	.
AG 46X7	.	.	.	.	.	.
AG49X6	35.2	35.4	35.0	34.7	33.5	34.8
DA13099-008F	36.2	35.8	36.3	36.7	34.9	36.0
DS1169-512	37.6	37.8	35.5	37.5	34.6	36.6
DS1260-260	36.0	37.0	37.7	36.1	34.8	36.3
K14-1717-1	37.1	37.9	34.0	37.2	36.6	36.6
K16-1787	36.1	35.9	33.5	35.5	33.3	34.8
K16-1797	33.7	34.7	32.1	36.2	32.3	33.8
K16-2016	35.4	35.9	35.0	37.2	33.8	35.5
K16-2105	36.9	37.5	34.3	37.0	36.3	36.4
S16-5503R	37.3	37.4	33.2	35.2	34.5	35.5
S16-7840C	35.1	34.9	32.7	34.8	33.8	34.3
S16-8898C	34.7	35.4	33.2	34.0	33.7	34.2
S16-14457C	35.5	36.3	33.0	36.3	34.7	35.2
S16-14801C	36.0	35.9	31.5	35.4	34.4	34.6
S16-14928C	35.4	34.9	32.7	34.5	33.7	34.2
TN15-4009	34.3	34.0	32.8	34.2	33.3	33.7
TN17-3756R1	34.7	35.8	35.0	35.3	33.6	34.9
TN17-4416	35.6	35.5	.	36.2	33.8	35.0
TN17-5023	36.9	37.3	35.0	36.3	35.6	36.2
TN18-4105	36.2	36.3	35.3	37.3	35.5	36.1
TN18-4108	37.0	38.5	35.4	38.1	35.7	36.9
V14-2288	38.2	39.7	35.6	38.1	38.6	38.0
V15-0057DI	35.5	36.5	33.4	34.6	34.2	34.8
V15-1407DI	36.1	37.0	34.6	36.5	34.9	35.8
V15-2259ST	38.5	38.1	37.0	38.4	36.5	37.7
V15-2287ST	36.3	37.2	35.0	37.3	35.3	36.2
V16-0293	34.1	34.8	32.8	33.9	34.6	34.0
V16-2197R	36.7	35.3	34.6	36.2	34.1	35.4
Mean	36.0	36.4	34.4	36.1	34.7	35.5
LSD(0.05)	.	.	.	.	.	0.9
CV(%)	.	.	.	.	.	2.1

†Protein percentage is reported on a 13% moisture basis beginning in 2015.

TABLE 50 - ESTIMATED MEAL PROTEIN (%)†
PRELIMINARY GROUP IV-S-LATE 2019

STRAIN/ VARIETY	*Jackson, TN*	*Kibler, AR*	*Knoxville, TN*	*Pittsburg, KS*	*Portageville, MO(B)*	*Test Mean*
Ellis	48.2	49.1	48.8	48.4	46.9	48.3
AG 4632RR2Y	.	.	.	.	.	.
AG 46X7	.	.	.	.	.	.
AG49X6	47.8	47.9	48.0	46.5	45.8	47.2
DA13099-008F	49.1	48.5	48.6	48.7	47.5	48.5
DS1169-512	50.2	50.1	47.7	48.9	46.7	48.8
DS1260-260	48.0	49.3	50.7	47.8	46.6	48.5
K14-1717-1	49.9	50.9	47.0	49.5	49.2	49.3
K16-1787	49.1	48.7	46.0	47.9	45.9	47.5
K16-1797	46.4	47.4	44.5	48.3	44.6	46.2
K16-2016	48.1	48.8	47.8	48.6	46.3	47.9
K16-2105	49.7	50.3	46.8	49.3	48.8	49.0
S16-5503R	50.1	50.0	45.5	46.9	46.7	47.9
S16-7840C	47.6	47.2	45.2	46.1	46.0	46.4
S16-8898C	47.4	48.5	45.5	46.1	46.3	46.8
S16-14457C	48.1	48.9	45.3	48.4	47.0	47.5
S16-14801C	48.6	48.5	43.2	47.0	46.9	46.8
S16-14928C	47.8	47.3	45.1	45.8	46.0	46.4
TN15-4009	46.8	46.6	45.0	46.0	45.7	46.0
TN17-3756R1	47.2	48.2	47.6	47.0	45.7	47.1
TN17-4416	48.2	47.8	.	48.2	45.8	47.2
TN17-5023	49.2	49.5	46.6	47.6	47.2	48.0
TN18-4105	49.4	49.2	47.7	49.9	48.1	48.8
TN18-4108	50.1	52.0	48.3	51.0	48.6	50.0
V14-2288	51.7	53.3	48.7	50.8	51.6	51.2
V15-0057DI	48.1	49.0	45.6	46.1	46.4	47.0
V15-1407DI	48.8	49.8	47.0	48.7	47.5	48.4
V15-2259ST	50.9	50.3	49.0	50.2	48.6	49.8
V15-2287ST	48.7	49.3	47.0	49.3	47.6	48.4
V16-0293	46.6	47.4	45.2	45.7	47.1	46.4
V16-2197R	49.3	47.7	47.5	48.5	46.6	47.9
Mean	48.7	49.0	46.8	48.1	47.0	47.9
LSD(0.05)	.	.	.	.	.	1.1
CV(%)	.	.	.	.	.	1.8

†Estimated meal protein percentage is reported on a 13% moisture basis.

SUMMARY OF SEED FATTY ACIDS (%)
PRELIMINARY TEST IV-S-LATE 2019 †

STRAIN/ VARIETY	Palmitic Acid	Stearic Acid	Oleic Acid	Linoleic Acid	Linolenic Acid
Ellis	11.0	3.8	28.0	52.0	5.9
AG 4632RR2Y	11.0	3.9	23.0	56.0	6.4
AG 46X7	12.0	4.0	24.0	54.0	6.5
TN18-4105	7.2	3.1	84.0	3.1	2.2
TN18-4108	7.2	3.2	83.0	4.0	2.6
Mean	9.7	3.6	48.0	34.0	4.7
LSD(0.05)	0.6	0.3	7.2	5.8	0.7
CV(%)	4.0	5.8	9.5	11.0	8.7

†Fatty acid percentage in seed oil reported beginning in 2017.

SEED PALMITIC ACID (%)
PRELIMINARY GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Jackson, TN	Kibler, AR	Knoxville, TN	Portageville, MO(B)	Test Mean
Ellis	11.5	10.3	11.3	10.5	10.9
AG 4632RR2Y	11.1	10.6	11.2	10.9	10.9
AG 46X7	12.3	12.2	.	12.2	12.2
TN18-4105	7.3	7.2	7.0	7.3	7.2
TN18-4108	6.8	7.0	6.9	8.0	7.2
Mean	9.8	9.5	9.1	9.8	9.7
LSD(0.05)	.	.	.	.	0.6
CV(%)	.	.	.	.	4.0

SEED STEARIC ACID (%)
PRELIMINARY GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Jackson, TN	Kibler, AR	Knoxville, TN	Portageville, MO(B)	Test Mean
Ellis	4.0	3.7	4.0	3.4	3.8
AG 4632RR2Y	3.9	3.7	3.8	4.1	3.9
AG 46X7	3.9	4.1	.	3.8	4.0
TN18-4105	3.2	3.2	2.8	3.2	3.1
TN18-4108	3.1	3.0	3.5	3.2	3.2
Mean	3.6	3.6	3.5	3.5	3.6
LSD(0.05)	.	.	.	.	0.3
CV(%)	.	.	.	.	5.8

SEED OLEIC ACID (%)
PRELIMINARY GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Jackson, TN	Kibler, AR	Knoxville, TN	Portageville, MO(B)	Test Mean
Ellis	22.1	34.7	19.8	34.2	27.7
AG 4632RR2Y	22.1	24.0	23.9	21.9	23.0
AG 46X7	21.7	24.8	.	24.1	23.5
TN18-4105	84.7	85.1	84.4	83.5	84.4
TN18-4108	85.6	87.2	84.9	74.4	83.0
Mean	47.2	51.2	53.2	47.6	48.3
LSD(0.05)	.	.	.	.	7.2
CV(%)	.	.	.	.	9.5

SEED LINOLEIC ACID (%)
PRELIMINARY GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Jackson, TN	Kibler, AR	Knoxville, TN	Portageville, MO(B)	Test Mean
Ellis	56.1	46.4	57.9	46.6	51.8
AG 4632RR2Y	56.3	56.0	54.4	56.5	55.8
AG 46X7	55.5	53.0	.	53.2	53.9
TN18-4105	2.4	2.8	3.6	3.7	3.1
TN18-4108	1.9	0.5	2.3	11.4	4.0
Mean	34.4	31.7	29.5	34.3	33.7
LSD(0.05)	.	.	.	.	5.8
CV(%)	.	.	.	.	11.1

SEED LINOLENIC ACID (%)
PRELIMINARY GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Jackson, TN	Kibler, AR	Knoxville, TN	Portageville, MO(B)	Test Mean
Ellis	6.3	4.9	7.0	5.3	5.9
AG 4632RR2Y	6.6	5.7	6.7	6.6	6.4
AG 46X7	6.6	5.9	.	6.7	6.5
TN18-4105	2.4	1.7	2.3	2.3	2.2
TN18-4108	2.6	2.3	2.5	3.0	2.6
Mean	4.9	4.1	4.6	4.8	4.7
LSD(0.05)	.	.	.	.	0.7
CV(%)	.	.	.	.	8.7

SUMMARY OF SEED SUGARS(%)
PRELIMINARY TEST IV-S-LATE 2019 †

STRAIN/ VARIETY	*Sucrose*	*Raffinose*	*Stachyose*	*Total Sugar*
Ellis	2.9	1.0	3.2	7.2
AG 4632RR2Y	3.2	1.2	3.7	8.1
AG 46X7	2.7	1.0	3.8	7.4
AG 49X6	2.1	0.9	3.3	6.3
V15-0057DI	4.1	1.2	3.0	8.4
Mean	3.0	1.1	3.4	7.5
LSD(0.05)	0.5	0.2	0.3	0.7
CV(%)	9.7	11.0	5.6	5.8

†Seed sugars percentage reported beginning in 2017.

SEED SUCROSE(%)
PRELIMINARY GROUP IV-S-LATE 2019

STRAIN/ VARIETY	*Jackson, TN*	*Kibler, AR*	*Knoxville, TN*	*Portageville, MO(B)*	*Test Mean*
Ellis	2.6	2.2	3.9	3.0	2.9
AG 4632RR2Y	3.1	3.0	3.7	2.9	3.2
AG 46X7	2.6	2.3	.	2.3	2.7
AG 49X6	2.1	1.6	2.8	2.0	2.1
V15-0057DI	4.2	3.5	5.4	3.4	4.1
Mean	2.9	2.5	3.9	2.7	3.0
LSD(0.05)					0.5
CV(%)					9.7

SEED RAFFINOSE(%)
PRELIMINARY GROUP IV-S-LATE 2019

STRAIN/ VARIETY	*Jackson, TN*	*Kibler, AR*	*Knoxville, TN*	*Portageville, MO(B)*	*Test Mean*
Ellis	1.0	1.1	1.3	0.7	1.0
AG 4632RR2Y	1.1	1.3	1.4	0.8	1.2
AG 46X7	0.9	1.2	.	0.7	1.0
AG 49X6	0.6	1.1	1.1	0.8	0.9
V15-0057DI	1.1	1.3	1.6	0.8	1.2
Mean	0.9	1.2	1.4	0.7	1.1
LSD(0.05)	.	.	.	.	0.2
CV(%)	.	.	.	.	10.8

SEED STACHYOSE(%)
PRELIMINARY GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Jackson, TN	Kibler, AR	Knoxville, TN	Portageville, MO(B)	Test Mean
Ellis	3.3	2.7	3.7	3.2	3.2
AG 4632RR2Y	3.9	3.4	4.1	3.5	3.7
AG 46X7	3.9	3.6	.	3.4	3.8
AG 49X6	3.4	2.8	3.5	3.2	3.3
V15-0057DI	2.8	2.6	3.6	3.2	3.0
Mean	3.5	3.0	3.7	3.3	3.4
LSD(0.05)					0.3
CV(%)					5.6

SEED TOTAL SUGARS (%)
PRELIMINARY GROUP IV-S-LATE 2019

STRAIN/ VARIETY	Jackson, TN	Kibler, AR	Knoxville, TN	Portageville, MO(B)	Test Mean
Ellis	6.9	6.0	8.9	6.9	7.2
AG 4632RR2Y	8.1	7.7	9.2	7.2	8.1
AG 46X7	7.3	7.1	.	6.4	7.4
AG 49X6	6.1	5.6	7.4	6.0	6.3
V15-0057DI	8.1	7.4	10.6	7.3	8.4
Mean	7.3	6.8	9.0	6.8	7.5
LSD(0.05)	.	.	.	.	0.7
CV(%)	.	.	.	.	5.8

TABLE 51 - PARENTAGE OF ENTRIES
UNIFORM GROUP V 2019

Ent	Strain/Variety	Parentage	Source	Fn	Trans-genic†	Special Traits‡
1	Ellis	5002T x 5601T	Commercial		Conv	
2	AG 53X6	Commercial check	Commercial		RRX	
3	JTN-5203	R93-171 x Anand	Arelli	F17	Conv	
4	UA 5612	Commercial check	Commercial		Conv	
5	TN11-5140	Hutcheson x TN89-39	Pantalone		Conv	
6	AG 55X7	Commercial check	Commercial		RRX	
7	DA1134-015F	DB03-1381 x S05-11482	Gillen		Conv	
8	DA1239-09-L	(DB05x029-117F) x DB06-2257	Gillen		Conv	25% Northern germplasm, 25% PI 423823
9	K15-1809	NCC05-1261 / 435.TCS	Schapaugh	F5	Conv	
10	N13-273	G03-3401 x N06-10011	Mian	F4	Conv	Meal
11	N16-590	N08-145 x Pro5-1	Mian	F4	Conv	>50% Meal
12	N16-600	N08-145 x Pro5-1	Mian	F4	Conv	>50% Meal
13	N16-8531	Osage x Holiday	Carter	F4	Conv	Elevated protein
14	N16-8564	Osage x Holiday	Carter	F4	Conv	Elevated protein
15	R13-13997	S07-2680 x R08-409	Mozzoni	F3:4	Conv	
16	R14-898	R05-235 x S021431C	Mozzoni	F4:5	Conv	
17	R14-1422	R06-4433 x S05-11482	Mozzoni	F4:5	Conv	
18	R15-1194	R09-1822 x R09-1589	Mozzoni	F4:5	Conv	
19	R15-5695	V06-3392 x N02-417	Mozzoni	F4:5	Conv	Oil > 20%
20	S15-15809C	R10-230 x S11-20124	Chen		Conv	Excluder
21	S15-17812C	S05-11482 x CR12-739TP	Chen		Conv	
22	S16-11651C	S09-13185 x S11-20124	Chen		Conv	RKN, Excluder
23	S16-15170C	S11-16653 x S08-17361	Chen		Conv	Protein
24	S16-3739RY	S11-16653 x S11-5727RR2	Chen		RR2	RKN
25	S16-3747R	S11-16653 x S11-5727RR2	Chen		RR1	RKN, Excluder
26	TN16-510R1	Ellis[5] x TN13-4730R1	Pantalone		RR1	
27	TN16-5027	TN09-008 x Ellis	Pantalone		Conv	
28	V14-0079	Glenn x V05-2436	Zhang	F4	Conv	> 50% meal
29	V14-0153	V07-0873 x S07-6489	Zhang	F4	Conv	> 50% meal
30	V14-2421	TN04-5321 x V07-0873	Zhang	F4	Conv	> 50% meal
31	V14-3821	Glenn x R05-235	Zhang	F4	Conv	
32	V14-3983	(Glenn x V03-4660) x Glenn	Zhang	F4	Conv	

†Conv= Conventional(non-transgenic), LL= Liberty Link®, RR1= Roundup Ready®, and RR2=Roundup Ready 2 Yield® RRX= Roundup Ready 2 Xtend®

‡AA= modified amino acids, DNC= Do not cross with this, FLS= Frogeye leaf spot resistance, LJ= Long juvenile, LN= low linolenic acid, LP= low phytate, HO= high olelic acid, HOLN= high oleic acid/low linolenic acid, SCN= Soybean cyst nematode resistance, SR= Soybean rust resistance, and STS= sulfonylurea tolerant

TABLE 52 - GENERAL SUMMARY OF PERFORMANCE
UNIFORM TEST V 2019

STRAIN/ VARIETY	RANK	AVG. RANK	YIELD† 2019	YIELD† 18-19	YIELD† 17-19	PROTEIN‡ 2019	PROTEIN‡ 18-19	PROTEIN‡ 17-19	OIL‡ 2019	OIL‡ 18-19	OIL‡ 17-19
Ellis	16	15	59.2	57.6	58.9	35.8	35.4	35.1	18.7	19.0	18.8
AG 53X6	25	20	55.9	.	.	35.6	.	.	19.0	.	.
JTN-5203	26	22	53.7	53.6	55.3	35.8	35.2	35.1	19.3	19.6	19.4
UA 5612	15	14	59.2	59.3	60.4	36.1	35.4	35.2	18.9	19.3	19.2
TN11-5140	10	14	60.0	60.1	61.0	35.7	35.5	35.4	19.2	19.6	19.5
AG 55X7	24	18	56.3	57.0	.	35.8	35.4	.	19.3	19.5	.
DA1134-015F	3	10	62.5	61.7	.	35.7	35.0	.	19.1	19.5	.
DA1239-09-L	13	14	59.6	.	.	37.4	.	.	18.6	.	.
K15-1809	7	12	60.9	59.1	.	37.6	36.7	.	18.4	18.9	.
N13-273	31	27	51.1	.	.	39.7	.	.	17.9	.	.
N16-590	8	13	60.4	.	.	38.4	.	.	18.5	.	.
N16-600	32	26	50.4	.	.	41.1	.	.	16.3	.	.
N16-8531	29	22	53.0	.	.	37.3	.	.	18.2	.	.
N16-8564	22	17	56.7	.	.	36.8	.	.	19.1	.	.
R13-13997	14	14	59.5	.	62.0	36.1	.	35.3	19.3	.	19.5
R14-898	9	15	60.1	.	.	35.5	.	.	19.3	.	.
R14-1422	18	17	58.6	.	.	36.0	.	.	18.7	.	.
R15-1194	27	23	53.6	.	.	34.6	.	.	19.7	.	.
R15-5695	23	20	56.5	.	.	35.4	.	.	20.3	.	.
S15-15809C	19	18	58.3	.	.	35.2	.	.	19.9	.	.
S15-17812C	12	13	59.7	59.0	.	37.5	37.1	.	19.8	20.0	.
S16-11651C	4	10	62.1	.	.	35.8	.	.	18.8	.	.
S16-15170C	6	12	61.0	.	.	35.9	.	.	19.2	.	.
S16-3739RY	1	6	65.3	.	.	35.6	.	.	19.5	.	.
S16-3747R	2	9	62.6	.	.	34.8	.	.	19.2	.	.
TN16-510R1	17	15	59.0	58.7	.	35.6	35.1	.	18.9	19.2	.
TN16-5027	5	12	61.1	.	.	35.0	.	.	18.6	.	.
V14-0079	11	15	59.9	.	.	37.3	.	.	19.6	.	.
V14-0153	28	24	53.1	.	.	38.5	.	.	18.2	.	.
V14-2421	20	17	57.7	.	.	38.9	.	.	18.0	.	.
V14-3821	21	18	57.4	.	.	36.9	.	.	19.0	.	.
V14-3983	30	25	51.9	.	.	36.5	.	.	18.9	.	.
Mean	.	.	58.0	.	.	36.6	.	.	18.9	.	.
LSD(0.05)	.	.	5.5	.	.	0.6	.	.	0.3	.	.
CV(%)	.	.	14.1	.	.	2.3	.	.	2.5	.	.

† Data not included in mean: 2019 - Belle Mina,AL; Bossier City,LA; Orange, VA; and Tallassee, AL
2017 - Tallassee, AL
2016 - Kinston, VA; Knoxville, TN; Warsau, VA

‡ Protein percentage and oil percentage reported on a 13% moisture basis beginning in 2015.

TABLE 53 - GENERAL SUMMARY OF PERFORMANCE -Part 2
UNIFORM TEST V 2019

STRAIN/ VARIETY	MEAL† PRO %	MAT INDEX	LOD	HT	SEED QUALITY	SEED SIZE	FL. COLOR	PUB. COLOR	POD COLOR
Ellis	47.9	0	1	26	1.8	12.6	W	G	T
AG 53X6	47.7	-2	2	28	1.8	15.1			
JTN-5203	48.2	-2	2	25	1.9	13.0	W	G	T
UA 5612	48.2	2	2	33	1.8	12.8	P	G	T
TN11-5140	48.2	4	2	33	1.8	13.8	W	G	T
AG 55X7	48.2	-1	1	25	1.6	12.9			
DA1134-015F	48.1	-1	2	30	1.7	13.3	P	T	T
DA1239-09-L	49.9	-2	2	30	1.8	15.0	W	G	T
K15-1809	50.1	-1	1	24	1.6	13.0			
N13-273	52.5	2	2	29	1.8	12.6	W	G	
N16-590	51.2	-1	2	29	1.8	14.8	P	T	
N16-600	53.3	0	2	29	1.6	13.0	P	T	
N16-8531	49.5	-1	1	24	1.8	12.4	P	G	
N16-8564	49.4	0	1	27	1.7	12.5	P	G	
R13-13997	48.6	1	2	31	1.9	14.6			
R14-898	47.7	0	2	33	1.9	15.5	W	G	T
R14-1422	48.1	0	2	30	1.9	12.8	W	G	T
R15-1194	46.8	-1	2	28	1.9	14.0	P	T	T
R15-5695	48.2	1	2	29	1.7	15.3	P	T	T
S15-15809C	47.8	0	2	35	2.0	15.2	W	T	T
S15-17812C	50.8	-2	2	27	1.9	13.4	W	G	T
S16-11651C	48.0	1	2	31	1.8	13.4	W	T	T
S16-15170C	48.4	2	2	35	2.0	16.1	W	G	T
S16-3739RY	48.2	1	2	32	1.8	13.6	W	Lt	T
S16-3747R	46.9	0	2	30	2.1	14.7	W	Lt	T
TN16-510R1	47.7	0	1	27	1.6	11.7	W	G	
TN16-5027	46.7	4	1	30	1.9	14.4	P	G	
V14-0079	50.4	0	1	25	2.0	13.5	P	G	
V14-0153	51.1	0	2	27	2.1	17.1	P	G	
V14-2421	51.5	0	2	30	2.0	15.7	P	G	
V14-3821	49.6	3	2	28	2.0	17.0	W	T	
V14-3983	49.2	-1	1	26	1.9	14.0	P	T	
Mean	49.0	0	2	29	1.8	14.0			
LSD(0.05)	0.7	2	0	2	0.3	0.7			
CV(%)	2.0	1117	30	13	25.0	7.1			

† Estimated meal protein content was added to the annual report in 2018.

TABLE 54 - GENERAL SUMMARY OF PEST REACTION
UNIFORM TEST V 2019

STRAIN/	*SCN Cyst Score (1-5 Scale)†*			*PRK*	*SRK*	*SC*	*SC*
VARIETY	*Race 2*	*Race 3*	*Race 5*	*GA*	*GA*	*RATING*	*SCORE*
Ellis	2	2	3	1.0	1.0	R	1.0
AG 53X6	3	1	2	1.0	1.0	R	1.0
JTN-5203	2	1	1	3.0	4.5	SS	3.0
UA 5612	3	2	4	5.0	4.8	MR	2.0
TN11-5140	4	4	2	1.0	1.0	R	1.0
AG 55X7	4	3	2	1.0	1.0	R	1.0
DA1134-015F	2	3	1	3.0	5.0	R	1.0
DA1239-09-L	4	3	3	2.5	2.3	R	1.0
K15-1809	4	3	4	4.5	5.0	R	1.0
N13-273	4	4	3	4.8	3.8	MS	4.0
N16-590	4	3	4	3.0	2.8	R	1.0
N16-600	4	3	3	1.0	1.0	R	1.0
N16-8531	4	2	2	2.0	5.0	SS	3.0
N16-8564	5	4	1	4.0	5.0	S	5.0
R13-13997	4	2	2	1.3	1.3	R	1.0
R14-898	4	4	2	1.0	1.0	R	1.0
R14-1422	4	4	5	1.0	1.0	S	5.0
R15-1194	4	3	4	4.5	3.5	S	5.0
R15-5695	4	2	2	1.8	2.8	R	1.0
S15-15809C	4	3	2	3.8	5.0	MS	4.0
S15-17812C	4	3	1	1.0	3.5	R	1.0
S16-11651C	2	3	1	1.0	1.0	S	5.0
S16-15170C	3	5	1	3.3	4.5	R	1.0
S16-3739RY	2	1	1	1.0	1.0	SS	3.0
S16-3747R	3	2	1	1.0	1.0	R	1.0
TN16-510R1	4	4	2	1.0	1.0	R	1.0
TN16-5027	3	4	2	1.0	1.0	R	1.0
V14-0079	5	4	2	3.8	5.0	S	5.0
V14-0153	4	5	3	2.5	4.3	R	1.0
V14-2421	4	5	3	2.8	2.0	R	1.0
V14-3821	3	4	3	1.0	5.0	S	5.0
V14-3983	3	2	4	4.3	4.8	R	1.0
Mean	.	.	.	2.6	2.3		.
LSD (0.05):	.	.	.	0.2	0.2		.
CV (%)	.	.	.	13.0	17.0		.

†The race 2, 3, and 5 SCN populations used in these tests were typed as HG (Heterodera glycines) Type 1.2.5.7, HG Type 5.7, and HG Type 2.5.7, respectively.

TABLE 55 - SEED YIELD (BUSHELS PER ACRE)
UNIFORM TEST V 2019 †

STRAIN/ VARIETY	*Belle Mina, AL*	*Bossier City, LA*	*Jackson, TN*	*Knoxville, TN*	*Orange, VA*	*Pittsburg, KS*	*Plymouth, NC*
Ellis	17.8	40.6	58.5	90.1	33.0	50.8	59.8
AG 53X6	16.6	39.1	48.3	65.8	26.6	42.2	62.0
JTN-5203	18.9	31.7	55.5	63.7	27.5	56.1	55.0
UA 5612	18.6	50.1	64.9	80.2	29.5	46.1	57.0
TN11-5140	15.5	67.3	68.4	78.9	24.4	46.0	55.3
AG 55X7	14.1	36.5	54.1	59.6	21.7	50.4	54.8
DA1134-015F	22.2	62.5	69.1	87.6	28.4	51.0	46.8
DA1239-09-L	21.9	46.3	61.3	74.0	30.2	49.2	58.9
K15-1809	21.4	34.9	64.9	87.9	27.9	54.8	50.0
N13-273	19.6	52.0	56.6	63.0	28.0	41.2	44.7
N16-590	18.1	67.6	60.4	79.3	26.2	48.3	56.3
N16-600	21.2	63.3	60.9	64.8	23.2	45.1	48.2
N16-8531	23.9	35.2	58.6	63.2	24.7	45.7	46.1
N16-8564	16.8	58.1	57.2	59.2	24.1	49.3	59.8
R13-13997	20.5	56.7	63.9	70.9	29.4	47.0	59.1
R14-898	19.6	71.8	59.3	83.1	29.1	45.4	54.2
R14-1422	20.7	78.3	58.7	77.4	29.2	38.0	54.4
R15-1194	18.5	67.2	56.0	69.9	24.5	45.4	50.2
R15-5695	13.5	64.7	60.3	73.1	22.6	41.3	48.6
S15-15809C	17.3	56.6	57.5	72.2	22.8	39.5	51.3
S15-17812C	24.2	34.8	61.6	74.0	20.1	51.6	44.7
S16-11651C	18.7	57.5	66.0	70.8	20.2	50.8	60.3
S16-15170C	19.8	65.9	63.2	78.3	29.1	49.0	54.3
S16-3739RY	23.1	52.4	71.7	84.1	32.4	55.3	51.1
S16-3747R	20.6	53.2	66.0	79.7	22.1	49.2	59.2
TN16-510R1	17.9	42.0	59.6	72.0	34.7	54.1	57.6
TN16-5027	19.0	54.4	65.4	80.0	24.2	47.4	53.0
V14-0079	19.2	27.6	58.1	67.6	33.1	49.9	48.4
V14-0153	18.8	52.8	57.8	60.4	23.0	44.7	47.9
V14-2421	17.8	53.4	60.1	74.0	28.6	42.3	45.6
V14-3821	16.3	57.1	56.7	67.8	29.8	43.6	56.5
V14-3983	20.7	36.9	56.2	66.0	32.2	49.6	50.6
Mean	19.2	52.1	60.5	73.1	27.0	47.5	53.2
LSD(0.05)	6.3	13.5	10.5	18.5	22.8	3.7	6.6
CV(%)	19.3	15.8	10.6	15.5	51.8	4.8	7.5

†Data not included in the mean: Belle Mina,AL; Bossier City,LA; Orange, VA; and Tallassee, AL.

TABLE 55 - SEED YIELD (BUSHELS PER ACRE) (continued)
UNIFORM TEST V 2019 †

STRAIN/ VARIETY	Portageville, MO(A)	Portageville, MO(B)	Springfield, TN	Suffolk, VA	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	55.0	39.5	54.3	64.4	32.9	60.3	59.2
AG 53X6	49.0	56.6	58.4	58.6	40.5	62.2	55.9
JTN-5203	45.2	32.9	63.4	60.5	32.4	51.2	53.7
UA 5612	52.8	55.6	53.0	60.4	31.2	62.9	59.2
TN11-5140	49.5	50.4	57.6	67.3	40.2	66.7	60.0
AG 55X7	54.8	49.4	59.4	57.4	37.2	67.4	56.3
DA1134-015F	54.5	52.4	67.4	70.2	30.8	63.2	62.5
DA1239-09-L	54.1	52.0	60.9	65.8	35.8	60.0	59.6
K15-1809	54.9	41.7	65.7	68.3	39.1	60.3	60.9
N13-273	37.6	44.9	51.2	67.9	33.8	53.1	51.1
N16-590	50.9	52.5	64.6	68.2	40.3	62.8	60.4
N16-600	44.5	43.7	47.9	54.3	41.2	44.1	50.4
N16-8531	59.4	44.9	56.6	62.7	24.1	39.8	53.0
N16-8564	52.0	55.9	60.9	79.4	39.0	36.8	56.7
R13-13997	51.0	41.3	65.7	75.1	38.6	62.3	59.5
R14-898	51.5	58.8	57.3	66.2	41.6	64.8	60.1
R14-1422	44.9	57.6	62.0	80.0	38.1	54.4	58.6
R15-1194	45.1	51.6	49.3	72.5	36.9	42.5	53.6
R15-5695	49.0	57.0	49.9	71.7	41.8	57.2	56.5
S15-15809C	52.0	63.1	60.8	75.1	31.7	53.4	58.3
S15-17812C	58.0	46.0	67.7	77.2	40.6	56.8	59.7
S16-11651C	52.1	61.5	63.8	71.7	36.8	61.9	62.1
S16-15170C	53.7	45.6	66.8	74.1	35.4	63.8	61.0
S16-3739RY	56.8	54.4	69.6	80.4	33.1	64.3	65.3
S16-3747R	57.1	54.9	55.2	75.2	36.9	67.2	62.6
TN16-510R1	51.6	37.5	71.2	65.9	25.8	61.9	59.0
TN16-5027	53.9	42.5	68.7	79.0	33.2	60.3	61.1
V14-0079	52.5	50.3	73.2	80.3	31.7	58.9	59.9
V14-0153	49.1	36.1	64.7	55.7	31.4	61.5	53.1
V14-2421	56.7	51.4	56.5	66.7	33.1	65.6	57.7
V14-3821	52.6	50.8	59.0	68.3	32.6	61.6	57.4
V14-3983	43.8	35.3	53.6	57.9	26.5	54.1	51.9
Mean	51.4	49.0	60.5	68.7	35.1	58.2	58.0
LSD(0.05)	4.6	11.2	14.2	15.2	11.2	9.0	5.5
CV(%)	5.5	14.0	14.4	13.5	19.5	9.5	14.1

TABLE 56 - RELATIVE MATURITY (DAYS EARLIER (-) OR LATER (+) THAN ENTRY 1)
UNIFORM GROUP V 2019

STRAIN/ VARIETY	*Belle Mina, AL*	*Bossier City, LA*	*Jackson, TN*	*Knoxville, TN*	*Pittsburg, KS*	*Plymouth, NC*	*Portageville, MO(A)*
Ellis	9/14	9/26	9/29	10/6	10/31	10/3	9/28
AG 53X6	5	-1	0	-1	-1	-2	3
JTN-5203	1	-4	2	0	0	0	-1
UA 5612	6	-1	5	0	4	1	4
TN11-5140	6	4	16	2	7	10	0
AG 55X7	5	-1	1	-1	-1	1	4
DA1134-015F	4	-1	2	-1	3	-2	-2
DA1239-09-L	2	-2	1	-1	0	-1	0
K15-1809	3	-2	4	-1	2	0	3
N13-273	8	3	8	2	8	2	4
N16-590	5	0	4	0	2	0	-1
N16-600	3	4	5	-1	3	-1	3
N16-8531	2	-1	1	0	4	-2	4
N16-8564	2	2	4	0	4	5	0
R13-13997	7	3	5	0	8	0	-2
R14-898	4	1	1	0	2	0	2
R14-1422	5	0	1	0	6	2	2
R15-1194	5	1	4	-1	2	2	-2
R15-5695	9	4	5	-1	4	2	0
S15-15809C	7	0	4	-1	3	-1	4
S15-17812C	1	-4	0	0	-3	-1	4
S16-11651C	8	0	5	0	8	0	1
S16-15170C	6	4	5	1	4	3	0
S16-3739RY	2	0	4	-1	3	2	4
S16-3747R	4	0	4	0	1	11	-1
TN16-510R1	2	-1	1	-1	-1	3	2
TN16-5027	8	3	9	1	4	10	0
V14-0079	6	-4	2	-1	1	5	4
V14-0153	5	-3	1	-1	4	-1	-1
V14-2421	6	0	4	0	1	0	4
V14-3821	5	3	11	0	6	16	0
V14-3983	5	-2	2	-1	2	0	-3
Mean	5	0	4	0	3	2	1
LSD(0.05)	4	3	3	1	3	3	2
CV(%)	56	618	50	399	54	88	95

TABLE 56 - RELATIVE MATURITY (continued)
UNIFORM GROUP V 2019

STRAIN/ VARIETY	Portageville, MO(B)	Springfield, TN	Suffolk, VA	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	10/13	10/11	10/23	10/12	10/2	10/6
AG 53X6	0	-10	-2	-12	1	-2
JTN-5203	-6	-10	-1	-2	0	-2
UA 5612	2	-8	-1	1	6	2
TN11-5140	4	-7	-1	0	12	4
AG 55X7	1	-11	-2	-12	1	-1
DA1134-015F	-1	-8	0	-9	3	-1
DA1239-09-L	-5	-10	-1	-12	3	-2
K15-1809	2	-8	-2	-13	3	-1
N13-273	5	-8	-2	-11	9	2
N16-590	2	-9	-1	-12	2	-1
N16-600	1	-10	-2	-12	4	0
N16-8531	-4	-9	0	-4	-1	-1
N16-8564	2	-9	-2	-5	3	0
R13-13997	3	-7	-2	-8	4	1
R14-898	2	-9	2	-7	3	0
R14-1422	1	-8	0	-8	4	0
R15-1194	1	-9	-1	-13	1	-1
R15-5695	2	-8	-2	-12	7	1
S15-15809C	2	-8	-2	-7	4	0
S15-17812C	-6	-9	2	-6	-1	-2
S16-11651C	3	-8	-1	-5	6	1
S16-15170C	0	-7	0	-7	9	2
S16-3739RY	1	-7	0	-1	4	1
S16-3747R	1	-8	0	-10	4	0
TN16-510R1	-2	-8	0	2	2	0
TN16-5027	4	-7	4	1	6	4
V14-0079	-3	-8	-1	-5	3	0
V14-0153	-5	-9	2	2	4	0
V14-2421	1	-9	0	-6	6	0
V14-3821	2	-7	0	-7	6	3
V14-3983	-2	-10	-2	-10	1	-1
Mean	0	-8	-1	-7	4	0
LSD(0.05)	2	5	3	4	2	2
CV(%)	526	39	338	37	37	1117

TABLE 57 - PLANT HEIGHT (INCHES)
UNIFORM GROUP V 2019

STRAIN/ VARIETY	Belle Mina, AL	Bossier City, LA	Jackson, TN	Knoxville, TN	Orange, VA	Pittsburg, KS	Plymouth, NC
Ellis	24	13	28	24	.	31	34
AG 53X6	27	15	30	25	.	30	36
JTN-5203	26	13	26	25	.	31	35
UA 5612	32	17	34	33	.	39	42
TN11-5140	30	19	33	34	.	36	42
AG 55X7	24	13	23	23	.	29	31
DA1134-015F	30	15	33	30	.	34	31
DA1239-09-L	29	15	30	30	.	32	37
K15-1809	23	11	25	25	.	27	24
N13-273	28	15	28	24	.	32	38
N16-590	24	19	34	29	.	31	36
N16-600	27	19	33	25	.	33	35
N16-8531	24	14	27	22	.	32	27
N16-8564	25	16	30	22	.	33	38
R13-13997	32	19	37	31	.	35	
R14-898	32	21	34	33	.	36	41
R14-1422	29	20	34	31	.	33	38
R15-1194	27	17	31	29	.	34	37
R15-5695	26	18	32	27	.	31	36
S15-15809C	34	17	40	32	.	38	46
S15-17812C	28	12	30	24	.	30	31
S16-11651C	28	18	32	29	.	34	44
S16-15170C	35	37	39	36	.	31	47
S16-3739RY	31	19	38	35	.	32	38
S16-3747R	26	14	36	34	.	34	45
TN16-510R1	24	13	29	23	.	34	31
TN16-5027	28	16	32	27	.	33	40
V14-0079	24	11	27	21	.	29	31
V14-0153	24	17	34	26	.	30	31
V14-2421	27	18	35	28	.	33	37
V14-3821	27	17	35	23	.	33	36
V14-3983	29	14	29	24	.	31	30
Mean	28	17	32	28	.	33	36
LSD(0.05)	6	3	3	4	.	5	.
CV(%)	14	13	7	9	.	9	.

TABLE 57 - PLANT HEIGHT (INCHES) (continued)
UNIFORM GROUP V 2019

STRAIN/ VARIETY	*Portageville, MO(A)*	*Portageville, MO(B)*	*Springfield, TN*	*Suffolk, VA*	*Tallassee, AL*	*Warsaw, VA*	*Test Mean*
Ellis	22	16	29	22	36	29	26
AG 53X6	30	23	29	23	37	30	28
JTN-5203	22	15	28	23	32	28	25
UA 5612	28	24	34	34	43	36	33
TN11-5140	29	22	37	33	41	38	33
AG 55X7	24	19	28	23	32	29	25
DA1134-015F	24	19	32	29	43	33	30
DA1239-09-L	28	24	31	32	40	31	30
K15-1809	22	15	28	21	34	26	24
N13-273	30	19	31	35	36	31	29
N16-590	25	22	35	30	36	32	29
N16-600	27	20	31	34	32	27	29
N16-8531	25	19	28	23	27	24	24
N16-8564	26	19	30	25	37	25	27
R13-13997	26	20	36	32	40	30	31
R14-898	29	24	35	37	41	35	33
R14-1422	27	20	35	34	32	34	31
R15-1194	23	20	30	32	32	28	28
R15-5695	25	19	33	32	36	29	29
S15-15809C	32	25	38	41	45	32	35
S15-17812C	25	18	34	31	29	29	27
S16-11651C	29	23	36	30	40	32	31
S16-15170C	37	22	37	28	37	35	35
S16-3739RY	30	21	33	32	42	35	32
S16-3747R	27	19	32	33	28	33	30
TN16-510R1	28	16	31	25	39	29	27
TN16-5027	27	18	34	33	40	32	30
V14-0079	19	18	30	25	38	25	25
V14-0153	25	18	31	23	38	30	27
V14-2421	29	24	31	32	36	31	30
V14-3821	24	20	33	32	29	30	28
V14-3983	26	16	29	26	35	25	26
Mean	26	20	32	30	36	30	29
LSD(0.05)	3	4	5	6	11	4	2
CV(%)	7	11	9	12	19	9	13

TABLE 58 - PLANT LODGING (1-5)
UNIFORM GROUP V 2019

STRAIN/ VARIETY	Belle Mina, AL	Bossier City, LA	Jackson, TN	Knoxville, TN	Orange, VA	Pittsburg, KS	Plymouth, NC
Ellis	1.0	1.0	1.7	2.0	.	2.3	2.0
AG 53X6	1.0	1.0	2.3	2.0	.	2.7	2.0
JTN-5203	1.0	1.0	1.0	2.0	.	3.7	1.8
UA 5612	1.0	1.0	2.7	2.2	.	4.0	2.0
TN11-5140	1.0	1.0	2.3	2.2	.	2.3	2.3
AG 55X7	1.0	1.0	1.7	2.0	.	2.0	1.8
DA1134-015F	1.0	1.0	2.3	2.2	.	3.3	2.3
DA1239-09-L	1.0	1.0	2.3	2.0	.	2.7	2.5
K15-1809	1.0	1.0	1.0	2.0	.	1.0	2.0
N13-273	1.0	1.0	1.3	2.0	.	2.3	2.0
N16-590	1.0	1.0	2.3	2.0	.	3.0	2.0
N16-600	1.0	1.0	2.7	2.0	.	2.7	2.0
N16-8531	1.0	1.0	1.0	2.0	.	1.3	1.8
N16-8564	1.0	1.0	1.0	2.0	.	2.3	2.0
R13-13997	1.0	1.0	2.3	2.0	.	3.0	2.1
R14-898	1.0	1.0	3.0	2.3	.	3.3	2.5
R14-1422	1.0	1.0	2.7	2.5	.	3.3	2.5
R15-1194	1.0	1.0	1.7	2.0	.	4.0	2.0
R15-5695	1.0	1.0	2.0	2.0	.	3.3	2.0
S15-15809C	1.0	1.0	2.0	2.0	.	3.3	2.3
S15-17812C	1.0	1.0	1.7	2.0	.	3.3	2.0
S16-11651C	1.0	1.0	2.0	2.2	.	3.3	2.5
S16-15170C	1.0	3.0	2.0	2.0	.	1.0	2.3
S16-3739RY	1.0	1.0	2.3	2.2	.	3.3	2.5
S16-3747R	1.0	1.0	2.0	2.0	.	4.0	2.3
TN16-510R1	1.0	1.0	1.0	2.0	.	2.3	2.0
TN16-5027	1.0	1.0	1.0	2.0	.	2.7	2.0
V14-0079	1.0	1.0	1.0	2.0	.	2.0	2.0
V14-0153	1.0	1.0	2.0	2.0	.	2.3	2.0
V14-2421	1.0	1.0	2.3	2.0	.	1.3	2.3
V14-3821	1.0	1.0	2.0	2.0	.	2.7	2.0
V14-3983	1.0	1.0	1.0	2.0	.	1.7	1.8
Mean	1.0	1.1	1.9	2.1	.	2.7	2.1
LSD(0.05)	.	.	0.7	0.2	.	1.0	0.5
CV(%)	0.0	0.0	23.2	7.4	.	22.5	11.8

TABLE 58 - PLANT LODGING (1-5) (continued)
UNIFORM GROUP V 2019

STRAIN/ VARIETY	Portageville, MO(A)	Portageville, MO(B)	Springfield, TN	Suffolk, VA	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	1.0	1.0	1.0	1.0	.	1.3	1.4
AG 53X6	1.5	1.0	1.0	1.3	.	1.2	1.5
JTN-5203	1.5	1.0	1.0	1.3	.	1.2	1.5
UA 5612	2.5	1.0	1.0	3.0	.	1.8	2.0
TN11-5140	2.0	1.0	1.0	2.0	.	1.6	1.7
AG 55X7	1.5	1.0	1.0	1.0	.	1.2	1.4
DA1134-015F	2.0	1.0	1.0	2.7	.	1.6	1.9
DA1239-09-L	2.5	1.0	1.0	3.8	.	1.5	1.9
K15-1809	1.5	1.0	1.0	1.0	.	1.4	1.3
N13-273	1.0	1.0	1.0	2.3	.	1.4	1.5
N16-590	2.0	1.0	1.0	3.3	.	1.6	1.8
N16-600	2.0	1.0	1.0	2.5	.	1.2	1.7
N16-8531	2.0	1.0	1.0	2.5	.	1.0	1.4
N16-8564	1.5	1.0	1.0	1.7	.	1.1	1.4
R13-13997	2.0	1.0	1.0	2.8	.	1.2	1.8
R14-898	3.0	1.0	1.0	4.0	.	1.9	2.2
R14-1422	2.5	1.0	1.0	3.5	.	2.1	2.1
R15-1194	1.5	1.0	1.0	2.5	.	1.2	1.7
R15-5695	1.5	1.0	1.0	2.7	.	1.5	1.7
S15-15809C	2.0	1.0	1.0	2.3	.	1.5	1.8
S15-17812C	2.0	1.0	1.0	1.7	.	1.9	1.7
S16-11651C	2.5	1.0	1.0	1.8	.	1.4	1.8
S16-15170C	2.5	1.0	1.0	1.5	.	1.2	1.7
S16-3739RY	2.0	1.0	1.0	2.8	.	1.5	1.9
S16-3747R	2.5	1.0	1.0	1.5	.	1.6	1.8
TN16-510R1	1.5	1.0	1.0	1.0	.	1.1	1.4
TN16-5027	1.5	1.0	1.0	1.5	.	1.2	1.4
V14-0079	1.0	1.0	1.0	1.0	.	1.1	1.3
V14-0153	2.0	1.0	1.0	1.5	.	1.4	1.6
V14-2421	2.5	1.0	1.0	2.7	.	1.2	1.7
V14-3821	2.0	1.0	1.0	1.3	.	1.6	1.6
V14-3983	2.5	1.0	1.0	1.7	.	1.1	1.4
Mean	1.9	1.0	1.0	2.1	.	1.4	1.7
LSD(0.05)	0.6	.	.	1.1	.	0.4	0.4
CV(%)	17.8	0.0	0.0	30.9	.	17.4	30.4

TABLE 59 - SEED QUALITY (1-5)
UNIFORM GROUP V 2019

STRAIN/ VARIETY	*Belle Mina, AL*	*Bossier City, LA*	*Jackson, TN*	*Knoxville, TN*	*Orange, VA*	*Pittsburg, KS*	*Plymouth, NC*
Ellis	.	1.0	2.0	2.0	1.3	3.0	1.8
AG 53X6	.	1.0	2.7	2.0	1.3	2.0	1.5
JTN-5203	.	1.0	2.0	2.0	1.0	3.0	1.8
UA 5612	.	1.0	2.0	2.0	1.0	3.0	1.5
TN11-5140	.	1.0	1.3	2.0	1.0	2.0	1.5
AG 55X7	.	1.0	2.0	2.0	1.3	2.0	1.3
DA1134-015F	.	1.0	1.3	2.0	1.0	2.0	1.5
DA1239-09-L	.	1.0	2.0	2.0	1.3	2.0	1.3
K15-1809	.	1.0	1.7	2.0	1.0	3.0	1.3
N13-273	.	1.0	2.0	1.0	1.7	3.0	1.3
N16-590	.	1.0	2.3	2.0	1.0	2.0	1.3
N16-600	.	1.0	1.7	1.0	1.3	3.0	1.0
N16-8531	.	1.0	2.0	2.0	1.0	3.0	1.3
N16-8564	.	1.0	1.7	2.0	1.0	2.0	1.5
R13-13997	.	1.0	2.3	3.0	1.7	2.0	1.0
R14-898	.	1.0	2.3	3.0	1.7	2.0	1.0
R14-1422	.	1.0	2.3	2.0	2.0	2.0	1.3
R15-1194	.	1.0	2.3	2.0	2.3	2.0	1.8
R15-5695	.	1.0	2.0	2.0	1.3	2.0	1.5
S15-15809C	.	1.0	2.3	2.0	1.7	2.0	1.5
S15-17812C	.	1.0	2.0	2.0	1.0	3.0	1.8
S16-11651C	.	1.0	1.3	2.0	1.3	2.0	1.3
S16-15170C	.	2.0	2.0	2.0	1.0	2.0	1.5
S16-3739RY	.	1.0	2.0	2.0	1.0	2.0	1.8
S16-3747R	.	1.0	2.0	2.0	2.3	2.0	2.3
TN16-510R1	.	1.0	1.7	2.0	1.0	2.0	1.5
TN16-5027	.	1.0	2.0	2.0	1.0	2.0	2.0
V14-0079	.	1.7	2.0	2.0	1.3	2.0	2.3
V14-0153	.	1.0	2.0	2.0	2.3	2.0	1.5
V14-2421	.	1.0	2.0	2.0	1.3	3.0	1.5
V14-3821	.	1.0	2.3	2.0	2.0	2.0	2.0
V14-3983	.	1.3	2.0	2.0	1.0	2.0	1.5
Mean	.	1.1	2.0	2.0	1.4	2.3	1.5
LSD(0.05)	.	0.2	0.7	.	1.0	.	0.5
CV(%)	.	13.5	20.1	0.0	46.9	.	16.1

TABLE 59 - SEED QUALITY (1-5) (continued)
UNIFORM GROUP V 2019

STRAIN/ VARIETY	Portageville, MO(A)	Portageville, MO(B)	Springfield, TN	Suffolk, VA	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	1.0	3.0	2.0	2.3	.	1.2	1.8
AG 53X6	2.0	1.3	2.0	3.0	.	1.4	1.8
JTN-5203	2.0	3.0	2.0	2.0	.	1.7	1.9
UA 5612	2.3	1.7	2.0	2.0	.	1.4	1.8
TN11-5140	2.0	3.0	2.0	2.0	.	1.6	1.8
AG 55X7	2.0	1.7	1.0	2.0	.	1.3	1.6
DA1134-015F	2.0	1.7	2.0	2.0	.	1.7	1.7
DA1239-09-L	2.0	1.7	3.0	2.3	.	1.4	1.8
K15-1809	1.0	2.0	2.0	2.0	.	1.3	1.6
N13-273	2.0	2.7	2.0	2.0	.	1.7	1.8
N16-590	2.0	2.7	2.0	2.0	.	1.7	1.8
N16-600	2.0	2.0	1.0	2.0	.	2.0	1.6
N16-8531	2.0	2.0	2.0	2.0	.	1.9	1.8
N16-8564	1.3	2.3	2.0	2.0	.	1.8	1.7
R13-13997	2.0	2.3	2.0	2.0	.	1.7	1.9
R14-898	2.0	2.3	2.0	2.3	.	1.5	1.9
R14-1422	2.0	2.0	2.0	2.0	.	1.7	1.9
R15-1194	2.7	2.3	1.0	2.0	.	1.8	1.9
R15-5695	2.0	2.3	1.0	2.0	.	1.5	1.7
S15-15809C	2.3	2.7	3.0	2.0	.	1.5	2.0
S15-17812C	2.0	2.7	2.0	2.0	.	1.7	1.9
S16-11651C	2.0	2.7	2.0	2.0	.	2.1	1.8
S16-15170C	2.0	3.0	2.0	2.0	.	2.1	2.0
S16-3739RY	2.3	2.0	2.0	2.0	.	1.4	1.8
S16-3747R	3.0	2.6	2.0	2.0	.	1.7	2.1
TN16-510R1	1.0	2.0	2.0	2.0	.	1.5	1.6
TN16-5027	2.3	3.0	2.0	2.0	.	1.9	1.9
V14-0079	2.0	2.7	2.0	2.0	.	1.7	2.0
V14-0153	3.0	3.3	2.0	2.0	.	1.8	2.1
V14-2421	2.3	2.3	3.0	2.0	.	1.9	2.0
V14-3821	2.0	2.7	2.0	2.0	.	2.1	2.0
V14-3983	2.7	3.0	2.0	2.0	.	1.2	1.9
Mean	2.0	2.4	2.0	2.1	.	1.6	1.8
LSD(0.05)	0.5	1.0	.	0.3	.	0.3	0.3
CV(%)	14.1	26.1	0.0	8.6	.	11.9	24.7

TABLE 60 - SEED SIZE (GRAMS PER 100 SEED)
UNIFORM GROUP V 2019

STRAIN/ VARIETY	*Belle Mina, AL*	*Bossier City, LA*	*Jackson, TN*	*Knoxville, TN*	*Orange, VA*	*Pittsburg, KS*	*Plymouth, NC*
Ellis	.	14.0	11.8	12.5	11.7	12.2	12.8
AG 53X6	.	16.1	14.5	15.0	14.7	16.3	15.4
JTN-5203	.	13.8	13.8	12.5	12.7	14.6	12.9
UA 5612	.	13.5	12.1	12.8	12.3	13.1	12.5
TN11-5140	.	16.5	14.9	14.1	12.7	13.4	12.7
AG 55X7	.	15.5	12.8	13.1	11.7	13.6	12.4
DA1134-015F	.	14.0	13.1	13.5	12.3	12.5	13.3
DA1239-09-L	.	19.1	13.9	13.8	14.3	15.6	14.0
K15-1809	.	12.3	12.3	12.5	13.0	13.3	12.8
N13-273	.	12.1	12.6	13.2	14.0	13.5	11.3
N16-590	.	16.8	13.9	15.7	14.3	14.8	12.8
N16-600	.	15.4	12.3	11.8	13.3	13.0	12.4
N16-8531	.	13.5	12.4	12.7	12.7	12.4	12.4
N16-8564	.	13.7	11.8	11.6	12.3	12.1	13.0
R13-13997	.	16.6	14.2	15.3	14.7	11.0	14.2
R14-898	.	17.9	14.1	15.0	14.0	15.7	15.3
R14-1422	.	14.3	12.0	13.6	12.7	12.4	13.2
R15-1194	.	16.2	12.8	14.4	13.7	13.7	13.7
R15-5695	.	17.8	16.5	16.6	14.3	14.1	13.6
S15-15809C	.	19.4	14.2	16.4	14.3	13.9	14.1
S15-17812C	.	14.0	13.6	13.8	12.7	11.9	14.2
S16-11651C	.	15.3	12.8	13.9	12.0	13.7	13.2
S16-15170C	.	18.4	14.9	17.0	13.7	18.8	15.2
S16-3739RY	.	15.0	13.2	14.1	12.7	12.1	13.2
S16-3747R	.	15.4	13.6	16.2	14.0	15.1	13.7
TN16-510R1	.	14.1	10.5	10.7	11.3	10.4	11.3
TN16-5027	.	14.6	14.6	14.5	12.7	13.8	13.8
V14-0079	.	12.7	13.6	12.9	13.0	12.7	13.9
V14-0153	.	18.2	16.3	15.7	16.7	18.5	18.1
V14-2421	.	17.4	15.6	15.7	14.7	15.7	14.3
V14-3821	.	19.4	17.0	16.9	15.3	16.3	17.9
V14-3983	.	14.2	14.1	13.7	13.0	14.1	13.7
Mean	.	15.5	13.6	14.1	13.4	13.9	13.7
LSD(0.05)	.	.	1.6	.	1.5	.	0.9
CV(%)	.	.	7.2	0.0	6.7	.	3.8

TABLE 60 - SEED SIZE (GRAMS PER 100 SEED) (continued)
UNIFORM GROUP V 2019

STRAIN/ VARIETY	Portageville, MO(A)	Portageville, MO(B)	Springfield, TN	Suffolk, VA	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	10.4	13.7	10.9	13.4	17.4	10.3	12.6
AG 53X6	13.0	16.7	12.0	16.9	17.0	13.4	15.1
JTN-5203	10.7	13.0	11.9	14.2	16.1	10.7	13.0
UA 5612	10.2	15.2	11.1	13.4	16.0	11.0	12.8
TN11-5140	11.1	15.8	12.2	13.8	16.7	12.3	13.8
AG 55X7	10.9	13.7	11.3	14.3	14.4	11.6	12.9
DA1134-015F	10.8	13.9	13.0	15.3	16.0	11.7	13.3
DA1239-09-L	12.3	17.8	14.8	15.6	16.7	13.1	15.0
K15-1809	11.1	15.8	12.7	13.5	15.3	11.2	13.0
N13-273	9.8	14.6	12.2	12.9	13.6	11.7	12.6
N16-590	12.4	16.9	13.6	15.7	17.7	13.4	14.8
N16-600	10.4	15.4	11.2	14.0	14.7	12.2	13.0
N16-8531	10.2	12.6	10.4	13.1	16.2	10.7	12.4
N16-8564	9.7	14.8	9.8	14.1	16.3	10.8	12.5
R13-13997	11.7	17.1	12.9	15.7	17.8	13.0	14.6
R14-898	13.5	18.1	12.8	17.1	19.3	13.6	15.5
R14-1422	10.2	15.1	10.7	14.5	14.8	10.6	12.8
R15-1194	11.6	16.2	11.5	15.9	16.9	11.8	14.0
R15-5695	12.3	17.3	14.0	16.0	17.0	14.0	15.3
S15-15809C	12.1	17.0	13.4	16.5	18.9	13.3	15.2
S15-17812C	10.8	12.9	12.8	14.6	17.5	11.8	13.4
S16-11651C	10.4	15.1	13.8	14.9	14.0	11.8	13.4
S16-15170C	13.4	18.4	16.5	17.1	16.8	14.2	16.1
S16-3739RY	10.7	14.9	13.7	14.1	16.9	11.8	13.6
S16-3747R	12.0	16.2	15.0	15.8	16.5	12.3	14.7
TN16-510R1	8.9	12.6	11.1	12.6	16.6	10.3	11.7
TN16-5027	12.1	15.8	14.2	15.1	18.5	12.5	14.4
V14-0079	10.7	15.2	13.0	14.5	17.0	11.7	13.5
V14-0153	14.0	16.5	15.8	18.3	21.1	16.0	17.1
V14-2421	12.7	17.2	14.4	16.8	19.3	14.4	15.7
V14-3821	14.4	19.8	15.6	18.7	18.3	14.6	17.0
V14-3983	12.2	15.2	12.0	15.2	17.6	12.3	14.0
Mean	11.5	15.6	12.8	15.1	16.8	12.3	14.0
LSD(0.05)	0.6	1.2	.	1.2	2.0	0.6	0.7
CV(%)	3.3	4.7	0.0	4.7	7.1	3.2	7.1

TABLE 61 - OIL (%)†
UNIFORM GROUP V 2019

STRAIN/ VARIETY	*Belle Mina, AL*	*Bossier City, LA*	*Jackson, TN*	*Knoxville, TN*	*Orange, VA*	*Pittsburg, KS*	*Plymouth, NC*
Ellis	.	18.3	19.7	20.0	18.7	18.3	18.5
AG 53X6	.	18.1	19.9	20.6	18.7	18.3	19.0
JTN-5203	.	19.2	19.7	20.3	19.6	19.0	19.0
UA 5612	.	18.5	19.7	20.3	19.3	17.5	19.1
TN11-5140	.	19.8	20.0	20.5	19.4	18.1	19.0
AG 55X7	.	18.0	19.9	20.1	19.2	18.9	19.3
DA1134-015F	.	19.2	20.0	20.2	19.2	18.0	19.1
DA1239-09-L	.	17.5	19.3	19.8	18.4	18.0	18.7
K15-1809	.	18.8	18.9	19.3	18.8	17.6	18.1
N13-273	.	17.8	18.4	19.0	18.6	16.8	17.8
N16-590	.	17.7	18.9	20.3	18.4	17.8	18.8
N16-600	.	16.0	16.5	17.3	17.3	15.3	16.0
N16-8531	.	17.4	18.4	19.1	18.7	17.6	18.2
N16-8564	.	18.9	19.8	20.2	18.9	18.2	19.3
R13-13997	.	18.7	20.5	20.7	19.4	18.5	19.4
R14-898	.	19.4	19.9	20.5	19.4	18.1	19.1
R14-1422	.	19.3	19.1	19.9	18.7	16.7	18.8
R15-1194	.	19.0	20.3	20.6	19.7	18.6	20.0
R15-5695	.	20.1	21.0	21.5	19.6	19.2	20.3
S15-15809C	.	20.1	20.5	21.3	19.1	18.3	20.1
S15-17812C	.	20.1	19.9	20.9	19.5	19.2	19.5
S16-11651C	.	19.5	19.3	20.1	19.4	17.4	18.6
S16-15170C	.	18.9	20.0	20.6	19.0	17.8	19.3
S16-3739RY	.	19.8	20.4	20.7	19.3	18.4	19.5
S16-3747R	.	18.7	20.3	20.7	19.4	18.2	19.2
TN16-510R1	.	18.2	19.6	19.9	18.7	18.7	18.4
TN16-5027	.	18.9	19.5	19.9	18.7	17.9	18.9
V14-0079	.	19.1	20.3	20.5	20.5	18.6	19.0
V14-0153	.	17.3	18.5	20.0	19.0	17.1	18.4
V14-2421	.	17.9	18.5	19.7	18.4	17.0	17.8
V14-3821	.	18.9	19.8	20.0	18.9	18.1	18.9
V14-3983	.	18.4	19.0	19.8	19.5	18.6	18.8
Mean	.	18.7	19.5	20.1	19.0	18.0	18.9
LSD(0.05)	.	0.5	.	0.6	0.8	.	0.5
CV(%)	.	1.7	.	1.8	2.5	.	1.5

†Oil percentage reported on a 13% moisture basis beginning in 2015.
Protein and oil data from all replicates of a trial were reported in 2019.

TABLE 61 - OIL (%)† (continued)
UNIFORM GROUP V 2019

STRAIN/ VARIETY	Portageville, MO(A)	Portageville, MO(B)	Springfield, TN	Suffolk, VA	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	18.3	.	.	18.1	18.7	18.3	18.7
AG 53X6	18.7	.	.	19.2	19.0	18.5	19.0
JTN-5203	18.5	.	.	18.9	19.4	19.2	19.3
UA 5612	18.2	.	.	18.8	18.8	19.1	18.9
TN11-5140	18.2	.	.	19.1	19.1	19.2	19.3
AG 55X7	19.1	.	.	19.4	19.5	19.2	19.2
DA1134-015F	18.8	.	.	19.0	19.3	18.3	19.1
DA1239-09-L	18.3	.	.	18.5	18.8	18.6	18.6
K15-1809	17.4	.	.	17.9	19.3	18.1	18.4
N13-273	17.0	.	.	17.8	17.8	17.7	17.9
N16-590	17.8	.	.	18.2	19.1	17.8	18.5
N16-600	14.9	.	.	16.8	16.7	16.0	16.3
N16-8531	17.1	.	.	18.4	18.3	18.5	18.2
N16-8564	18.2	.	.	19.2	19.3	19.1	19.1
R13-13997	18.0	.	.	18.9	19.5	19.0	19.2
R14-898	18.6	.	.	19.4	19.7	19.0	19.3
R14-1422	17.7	.	.	18.6	19.3	18.4	18.7
R15-1194	19.3	.	.	19.6	20.4	20.0	19.8
R15-5695	19.9	.	.	20.1	21.0	19.8	20.3
S15-15809C	19.3	.	.	20.0	20.5	19.6	19.9
S15-17812C	19.1	.	.	19.5	20.5	19.4	19.8
S16-11651C	17.7	.	.	18.4	19.1	18.7	18.8
S16-15170C	18.9	.	.	19.4	19.3	19.1	19.2
S16-3739RY	18.8	.	.	19.4	19.6	19.0	19.5
S16-3747R	18.6	.	.	19.1	18.6	19.1	19.2
TN16-510R1	18.3	.	.	18.3	19.8	18.5	18.8
TN16-5027	18.2	.	.	17.8	18.2	18.4	18.6
V14-0079	18.9	.	.	19.8	19.9	19.3	19.6
V14-0153	17.6	.	.	18.3	17.5	18.8	18.3
V14-2421	17.2	.	.	18.4	17.4	18.1	18.1
V14-3821	18.2	.	.	19.0	19.8	18.7	19.0
V14-3983	18.1	.	.	18.7		19.4	19.0
Mean	18.2	.	.	18.8	19.1	18.7	18.9
LSD(0.05)	0.4	.	.	0.6	0.8	0.5	0.3
CV(%)	1.2	.	.	1.9	2.4	1.8	2.5

TABLE 62 - PROTEIN (%)†
UNIFORM GROUP V 2019

STRAIN/ VARIETY	*Belle Mina, AL*	*Bossier City, LA*	*Jackson, TN*	*Knoxville, TN*	*Orange, VA*	*Pittsburg, KS*	*Plymouth, NC*
Ellis	.	37.3	35.6	33.8	35.1	35.9	36.0
AG 53X6	.	38.3	34.7	33.3	34.9	35.4	35.0
JTN-5203	.	37.3	36.8	34.9	34.2	35.1	35.5
UA 5612	.	37.7	35.7	34.3	34.4	37.9	35.0
TN11-5140	.	35.8	33.9	34.4	34.2	36.6	35.8
AG 55X7	.	38.2	36.1	35.1	34.1	36.1	34.7
DA1134-015F	.	36.7	35.7	34.1	34.6	34.7	35.8
DA1239-09-L	.	39.7	37.7	35.1	36.9	37.4	35.7
K15-1809	.	38.7	37.7	35.8	36.9	37.7	37.1
N13-273	.	40.6	39.9	38.7	37.7	40.7	39.1
N16-590	.	39.6	38.1	37.4	37.1	39.1	37.1
N16-600	.	43.0	41.7	39.5	38.9	41.6	41.2
N16-8531	.	39.5	37.8	36.4	35.3	37.4	36.2
N16-8564	.	38.6	37.2	35.5	35.4	36.8	35.9
R13-13997	.	38.2	35.6	34.1	34.5	36.9	35.9
R14-898	.	35.5	35.5	33.1	33.9	36.5	35.4
R14-1422	.	36.8	35.6	34.0	34.8	37.4	35.8
R15-1194	.	35.5	34.1	33.4	34.1	35.5	33.8
R15-5695	.	36.5	35.4	33.7	34.2	35.8	35.2
S15-15809C	.	36.9	35.1	33.8	34.7	35.5	34.1
S15-17812C	.	38.6	37.8	36.5	36.2	36.8	37.5
S16-11651C	.	36.4	36.5	34.2	33.8	35.8	36.0
S16-15170C	.	38.7	35.6	33.9	34.4	36.1	36.0
S16-3739RY	.	36.7	34.7	33.8	35.0	34.9	36.0
S16-3747R	.	37.2	34.0	32.8	33.8	33.6	34.5
TN16-510R1	.	37.4	35.6	34.3	35.1	35.3	35.7
TN16-5027	.	35.8	35.0	32.8	34.0	35.2	34.0
V14-0079	.	39.6	36.8	36.4	34.4	37.0	38.8
V14-0153	.	40.5	38.7	36.6	36.3	38.9	38.0
V14-2421	.	39.7	39.2	36.9	36.6	39.8	38.5
V14-3821	.	38.8	35.3	36.2	35.6	37.1	37.1
V14-3983	.	38.8	38.1	35.2	34.3	36.2	36.6
Mean	.	38.1	36.5	35.0	35.2	36.8	36.2
LSD(0.05)	.	1.0	.	1.2	1.4	.	1.2
CV(%)	.	1.6	.	2.2	2.4	.	1.9

†Protein percentage reported on a 13% moisture basis beginning in 2015.
Protein and oil data from all replicates of a trial were reported in 2019.

TABLE 62 - PROTEIN (%)† (continued)
UNIFORM GROUP V 2019

STRAIN/ VARIETY	Portageville, MO(A)	Portageville, MO(B)	Springfield, TN	Suffolk, VA	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	35.9	.	.	36.1	38.1	34.3	35.8
AG 53X6	35.8	.	.	34.5	39.2	34.5	35.6
JTN-5203	35.9	.	.	36.4	38.1	34.1	35.8
UA 5612	36.6	.	.	36.1	38.9	33.9	36.0
TN11-5140	37.4	.	.	36.4	37.7	35.0	35.8
AG 55X7	35.6	.	.	35.7	38.5	34.2	35.8
DA1134-015F	36.2	.	.	36.1	38.5	34.9	35.8
DA1239-09-L	37.1	.	.	37.8	41.1	35.5	37.4
K15-1809	39.0	.	.	37.8	38.6	36.8	37.6
N13-273	40.0	.	.	40.1	41.3	39.1	39.7
N16-590	38.6	.	.	38.8	40.0	37.9	38.4
N16-600	41.9	.	.	41.1	41.8	40.5	41.1
N16-8531	38.0	.	.	37.3	40.3	34.7	37.3
N16-8564	38.0	.	.	36.5	39.4	34.7	36.8
R13-13997	37.7	.	.	36.5	37.2	34.8	36.1
R14-898	36.5	.	.	35.9	38.3	34.1	35.4
R14-1422	36.6	.	.	36.4	38.2	34.5	36.0
R15-1194	34.4	.	.	35.4	36.7	32.6	34.5
R15-5695	35.4	.	.	36.2	36.7	34.6	35.4
S15-15809C	35.5	.	.	35.2	37.8	33.8	35.2
S15-17812C	37.9	.	.	37.6	39.8	36.0	37.5
S16-11651C	36.9	.	.	36.7	37.4	34.7	35.8
S16-15170C	36.6	.	.	35.2	38.5	34.6	36.0
S16-3739RY	36.3	.	.	35.7	38.5	34.3	35.7
S16-3747R	35.8	.	.	34.7	38.0	33.4	34.9
TN16-510R1	35.7	.	.	36.1	36.5	34.5	35.6
TN16-5027	35.8	.	.	35.8	37.5	34.0	35.0
V14-0079	37.6	.	.	36.5	40.3	35.4	37.3
V14-0153	39.0	.	.	39.4	40.8	36.4	38.4
V14-2421	39.4	.	.	39.4	42.4	37.3	38.9
V14-3821	38.1	.	.	36.9	38.3	35.8	37.0
V14-3983	37.9	.	.	36.5		34.5	36.7
Mean	37.2	.	.	36.8	38.8	35.2	36.6
LSD(0.05)	0.6	.	.	1.1	1.6	0.8	0.6
CV(%)	1.1	.	.	1.9	2.4	1.4	2.3

TABLE 63 - MEAL (%)†
UNIFORM GROUP V 2019

STRAIN/ VARIETY	Belle Mina, AL	Bossier City, LA	Jackson, TN	Knoxville, TN	Orange, VA	Pittsburg, KS	Plymouth, NC
Ellis	.	49.6	48.2	45.9	47.0	47.8	48.1
AG 53X6	.	50.8	47.1	45.6	46.6	47.1	47.0
JTN-5203	.	50.2	49.7	47.6	46.2	47.1	47.7
UA 5612	.	50.3	48.3	46.7	46.4	49.9	47.0
TN11-5140	.	48.6	46.0	47.0	46.1	48.6	48.0
AG 55X7	.	50.6	48.9	47.7	45.9	48.4	46.8
DA1134-015F	.	49.4	48.5	46.5	46.6	46.0	48.1
DA1239-09-L	.	52.3	50.7	47.5	49.2	49.6	47.7
K15-1809	.	51.7	50.5	48.3	49.3	49.7	49.2
N13-273	.	53.6	53.2	51.9	50.4	53.2	51.7
N16-590	.	52.3	51.1	51.0	49.5	51.7	49.7
N16-600	.	55.6	54.3	52.0	51.1	53.4	53.3
N16-8531	.	51.9	50.3	48.8	47.2	49.3	48.1
N16-8564	.	51.8	50.4	48.3	47.5	48.9	48.4
R13-13997	.	51.1	48.6	46.7	46.5	49.2	48.3
R14-898	.	48.0	48.2	45.3	45.7	48.4	47.5
R14-1422	.	49.6	47.8	46.1	46.6	48.8	47.9
R15-1194	.	47.7	46.5	45.7	46.1	47.4	46.0
R15-5695	.	49.7	48.7	46.6	46.2	48.2	48.0
S15-15809C	.	50.1	48.0	46.7	46.6	47.2	46.3
S15-17812C	.	52.5	51.2	50.2	48.9	49.5	50.6
S16-11651C	.	49.2	49.1	46.5	45.6	47.1	48.1
S16-15170C	.	51.9	48.4	46.4	46.2	47.7	48.5
S16-3739RY	.	49.7	47.4	46.4	47.1	46.5	48.6
S16-3747R	.	49.7	46.4	44.9	45.6	44.6	46.4
TN16-510R1	.	49.7	48.1	46.6	47.0	47.2	47.5
TN16-5027	.	47.9	47.3	44.5	45.4	46.6	45.5
V14-0079	.	53.2	50.2	49.7	47.0	49.4	52.1
V14-0153	.	53.2	51.6	49.8	48.8	51.0	50.5
V14-2421	.	52.6	52.2	50.0	48.7	52.1	50.9
V14-3821	.	52.0	47.8	49.1	47.7	49.2	49.8
V14-3983	.	51.7	51.2	47.7	46.4	48.3	49.0
Mean	.	50.9	49.3	47.6	47.2	48.7	48.5
LSD(0.05)	.	1.3	.	1.6	1.5	.	1.4
CV(%)	.	1.5	.	2.0	1.9	.	1.7

†Meal percentage reported on a 13% moisture basis beginning in 2018.
Protein and oil data from all replicates of a trial were reported in 2019.

TABLE 63 - MEAL (%)† (continued)
UNIFORM GROUP V 2019

STRAIN/ VARIETY	Portageville, MO(A)	Portageville, MO(B)	Springfield, TN	Suffolk, VA	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	47.7	.	.	47.9	51.0	45.6	47.9
AG 53X6	47.9	.	.	46.5	52.6	46.0	47.7
JTN-5203	47.9	.	.	48.8	51.3	45.9	48.2
UA 5612	48.6	.	.	48.3	52.1	45.5	48.2
TN11-5140	49.7	.	.	48.9	50.7	47.1	48.2
AG 55X7	47.8	.	.	48.1	52.0	46.0	48.2
DA1134-015F	48.5	.	.	48.4	51.8	46.5	48.1
DA1239-09-L	49.3	.	.	50.4	55.0	47.5	49.9
K15-1809	51.3	.	.	50.1	52.0	48.8	50.1
N13-273	52.5	.	.	53.0	54.6	51.6	52.5
N16-590	51.0	.	.	51.6	53.7	50.2	51.2
N16-600	53.5	.	.	53.6	54.5	52.4	53.3
N16-8531	49.8	.	.	49.7	53.7	46.3	49.5
N16-8564	50.5	.	.	49.2	53.0	46.6	49.4
R13-13997	50.0	.	.	48.9	50.2	46.7	48.6
R14-898	48.7	.	.	48.4	51.9	45.7	47.7
R14-1422	48.3	.	.	48.7	51.4	45.9	48.1
R15-1194	46.3	.	.	47.8	50.1	44.3	46.8
R15-5695	48.0	.	.	49.2	50.5	46.9	48.2
S15-15809C	47.8	.	.	47.8	51.6	45.7	47.8
S15-17812C	50.9	.	.	50.8	54.4	48.5	50.8
S16-11651C	48.8	.	.	48.9	50.2	46.3	48.0
S16-15170C	49.0	.	.	47.4	51.8	46.5	48.4
S16-3739RY	48.6	.	.	48.1	52.0	46.1	48.2
S16-3747R	47.8	.	.	46.6	50.7	44.9	46.9
TN16-510R1	47.6	.	.	48.0	49.4	46.0	47.7
TN16-5027	47.5	.	.	47.3	49.8	45.3	46.7
V14-0079	50.4	.	.	49.4	54.7	47.6	50.4
V14-0153	51.4	.	.	52.4	53.8	48.7	51.1
V14-2421	51.8	.	.	52.5	55.8	49.5	51.5
V14-3821	50.5	.	.	49.5	51.9	47.9	49.6
V14-3983	50.3	.	.	48.9		46.5	49.2
Mean	49.4	.	.	49.2	52.2	47.0	49.0
LSD(0.05)	0.7	.	.	1.4	1.8	0.8	0.7
CV(%)	0.9	.	.	1.7	2.0	1.1	2.0

TABLE 64 - PARENTAGE OF ENTRIES
PRELIMINARY GROUP V-EARLY 2019

Ent	Strain/Variety	Parentage	Source	Fn	Trans-genic†	Special Traits‡
1	Ellis	5002T x 5601T	Commercial		Conv	
2	AG 53X6	Commercial check	Commercial		RRX	
3	AG 55X7	Commercial check	Commercial		RRX	
4	DA13087-1-006F	Osage x NCC07-7506	Gillen		Conv	
5	DS115-223	N02-7002 x Osage	Rusty Smith	F5	Conv	
6	K16-1869	KS5004N/R09-430	Schapaugh	F5	Conv	
7	K16-1875	KS5004N/R09-430	Schapaugh	F5	Conv	
8	K16-1881	KS5004N/R09-430	Schapaugh	F5	Conv	
9	K16-2102	KS5004N/435.TCS	Schapaugh	F5	Conv	
10	K16-2155	R05-374/435.TCS	Schapaugh	F5	Conv	
11	N16-601	N08-145 x Pro5-1	Mian	F4	Conv	>50% meal
12	R16-39	NCC05-126 x R09-1589	Mozzoni	F4:5		
13	S16-8852C	R09-430 x S11-20124	Chen		Conv	Oil, RKN, Excluder
14	S16-9030C	R10-230 x S11-20124	Chen		Conv	SCN-3, Excluder
15	S16-9090C	R10-230 x S11-20124	Chen		Conv	RKN
16	S16-11445C	S11-16653 x R09-430	Chen		Conv	RKN
17	S16-14869C	S11-16653 x S11-20124	Chen		Conv	RKN, Excluder
18	S16-15896C	R10-230 x S11-20124	Chen		Conv	Excluder
19	S17CR-245	S11-20124(4) x S13-16750	Chen		RR1	HO
20	TN15-5012	Osage x TN07-754	Pantalone		Conv	
21	TN16-5024	TN09-008 x Ellis	Pantalone		Conv	
22	TN18-4110	Ellis(4) x TN13-5001-ln x Ellis(4) x TN10-4037-HO	Pantalone		Conv	HOLN
23	TN18-4130	Ellis(4) x TN13-5001-ln x Ellis(4) x TN10-4037-HO	Pantalone		Conv	HOLN
24	V14-2116	(5002T x V02-8659) x V03-4660	Zhang	F4	Conv	
25	V15-1861	Ozark x NCC06-339	Zhang	F4	Conv	
26	V15-2261ST	Hanover x V09-0673	Zhang	F4	Conv	
27	V16-0709PR	S08-17361 x R08-3206	Zhang	F4	Conv	
28	V16-0725PR	S08-17361 x R08-3206	Zhang	F4	Conv	
29	V16-1672RLP	04-05-N41 x V05-2037	Zhang	F4	RR1	

†Conv= Conventional(non-transgenic),LL= Liberty Link®, RR1= Roundup Ready®, RR2= Roundup Ready 2 Yield®, and RRX= Roundup Ready 2 Xtend®

‡AA= modified amino acids, DNC= Do not cross with this, FLS= Frogeye leaf spot resistance, LJ= Long juvenile, LN= low linolenic acid, LP= low phytate, HO= high oleic acid, HOLN= high oleic acid/low linolenic acid, SCN= Soybean cyst nematode resistance, SR= Soybean rust resistance, and STS= sulfonylurea tolerant

TABLE 65 - GENERAL SUMMARY OF PERFORMANCE
PRELIMINARY TEST V-EARLY 2019

STRAIN/ VARIETY	SEED YIELD†	RANK	AVG. RANK	MAT. INDEX	LOD	HT	SCN Cyst Score (1-5)‡ Race 2	Race 3	Race 5	SC RATING	SC SCORE
Ellis	58.1	6	6	0	1.7	28	5	4	5	R	1
AG 53X6	50.3	24	20	-1	1.7	28	4	1	3	R	1
AG 55X7	54.9	11	13	1	1.4	27	5	3	4	R	1
DA13087-1-006F	53.1	19	16	-1	1.5	28	3	2	4	R	1
DS115-223	41.3	29	26	1	1.7	32	2	2	2	SS	3
K16-1869	53.2	18	17	-1	2.2	30	2	1	3	R	1
K16-1875	54.4	14	15	-2	1.5	29	5	4	3	R	1
K16-1881	53.4	16	17	0	1.9	31	5	1	2	R	1
K16-2102	53.3	17	16	-2	1.9	30	3	1	2	SS	3
K16-2155	52.0	21	18	-1	2.7	30	3	2	4	R	1
N16-601	50.8	23	20	0	1.9	28	5	3	4	R	1
R16-39	46.2	25	23	-1	1.6	28	3	4	3	S	5
S16-8852C	53.0	20	17	2	1.9	30	1	1	1	R	1
S16-9030C	61.1	1	4	1	2.4	33	1	2	1	R	1
S16-9090C	59.2	4	6	3	2.2	30	3	2	3	SS	3
S16-11445C	55.1	10	13	4	1.9	29	3	4	3	R	1
S16-14869C	58.4	5	8	3	2.4	32	3	3	4	R	1
S16-15896C	58.0	7	11	0	2.0	30	5	4	4	R	1
S17CR-245	53.6	15	16	0	2.9	34	1	3	1	S	5
TN15-5012	51.1	22	20	-2	1.3	25	4	4	3	R	1
TN16-5024	60.3	2	7	2	1.8	28	1	2	1	R	1
TN18-4110	59.3	3	6	-1	1.8	26	5	4	4	R	1
TN18-4130	56.2	9	10	1	1.6	26	5	4	3	R	1
V14-2116	45.4	26	26	-1	1.8	29	3	5	4	R	1
V15-1861	54.5	13	15	0	1.7	30	3	4	4	S	5
V15-2261ST	54.7	12	14	2	1.6	31	4	3	4	R	1
V16-0709PR	56.9	8	10	3	1.7	37	3	4	4	R	1
V16-0725PR	44.5	27	23	3	1.6	32	5	4	4	R	1
V16-1672RLP	43.9	28	24	3	2.0	33	5	4	4	R	1
Mean	53.3	.	.	1	1.9	30	.	.	.		.
LSD(0.05)	6.2	.	.	3	0.5	3	.	.	.		.
CV(%)	10.9	.	.	537	24.6	10	.	.	.		.

†Data not included in the mean: Portageville,MO(B) and Tallassee,AL.

‡The race 2, 3, and 5 SCN populations used in these tests were typed as HG (Heterodera glycines) Type 1.2.5.7, HG Type 5.7, and HG Type 2.5.7, respectively.

TABLE 66 - GENERAL SUMMARY OF PERFORMANCE (continued)
PRELIMINARY TEST V-EARLY 2019

STRAIN/ VARIETY	SEED QUALITY	SEED SIZE	PROTEIN§ %	OIL§ %	MEAL PRO%	FL COLOR	PUB. COLOR	POD COLOR
Ellis	1.9	12.2	35.6	18.9	47.8	W	G	T
AG 53X6	1.9	15.4	35.1	19.7	47.5			
AG 55X7	2.0	12.7	36.4	19.6	49.2			
DA13087-1-006F	2.1	12.4	37.6	18.1	49.9			
DS115-223	2.1	13.7	38.6	18.4	51.4	P	G	T
K16-1869	2.2	12.6	36.4	19.9	49.3			
K16-1875	1.8	13.0	36.5	19.9	49.6			
K16-1881	2.0	12.7	37.0	19.4	49.9			
K16-2102	1.9	13.5	36.3	19.5	49.0			
K16-2155	1.9	13.7	36.7	19.2	49.4			
N16-601	2.0	15.9	37.5	19.4	50.5	P	G	
R16-39	2.1	14.0	34.1	19.3	46.0		T	T
S16-8852C	2.0	13.6	34.6	20.6	47.3	S	T	T
S16-9030C	2.2	12.8	35.6	19.6	48.2	W	T	T
S16-9090C	1.8	13.2	34.4	20.0	46.8	W	G	T
S16-11445C	1.9	15.5	35.3	20.3	48.1	P	G	T
S16-14869C	2.0	14.5	34.7	19.7	46.9	W	T	T
S16-15896C	1.7	13.3	36.7	18.9	49.2	W	G	T
S17CR-245	1.9	12.3	35.4	19.8	48.0			
TN15-5012	1.8	12.0	37.6	19.1	50.5	W	G	
TN16-5024	2.1	13.1	34.9	18.7	46.7	W	G	
TN18-4110	1.9	12.3	36.9	19.7	50.0	W	G	
TN18-4130	1.9	12.3	36.6	19.2	49.2	W	G	
V14-2116	2.0	13.9	37.3	19.4	50.4	W	T	
V15-1861	1.9	15.3	35.1	19.5	47.4	P	T	
V15-2261ST	2.2	14.5	37.7	19.1	50.6	P	G	
V16-0709PR	2.4	16.3	34.9	20.0	47.5	P	G	
V16-0725PR	2.5	12.7	37.5	18.2	49.9	P	G	
V16-1672RLP	2.1	13.1	35.8	18.6	47.9	W	T	
Mean	2.0	13.5	36.2	19.4	48.8			
LSD(0.05)	0.5	1.3	0.9	0.5	1.1			
CV(%)	22.0	10.7	2.4	2.6	2.2			

§Protein percentage and oil percentage are reported on a 13% moisture basis beginning in 2015.

TABLE 67 - SEED YIELD (BUSHELS PER ACRE)
PRELIMINARY GROUP V-EARLY 2019 †

STRAIN/ VARIETY	Jackson, TN	Kinston, NC	Knoxville, TN	Pittsburg, KS	Portageville, MO(B)	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	65.0	27.6	84.8	50.5	38.0	18.5	62.9	58.1
AG 53X6	49.6	22.4	75.2	48.2	49.0	23.5	56.2	50.3
AG 55X7	56.7	24.6	81.0	47.3	65.5	17.7	64.8	54.9
DA13087-1-006F	61.6	23.1	71.4	47.5	45.3	25.0	61.8	53.1
DS115-223	49.2	20.5	50.4	35.7	45.8	22.4	50.7	41.3
K16-1869	57.6	19.7	79.6	49.2	47.4	15.7	59.9	53.2
K16-1875	59.4	20.1	76.6	54.1	36.3	21.3	61.9	54.4
K16-1881	60.5	18.7	79.3	51.1	49.4	22.4	57.4	53.4
K16-2102	54.7	25.0	79.4	48.1	37.4	17.0	59.6	53.3
K16-2155	50.4	21.2	84.2	48.5	46.8	26.9	56.0	52.0
N16-601	54.7	24.4	79.3	38.4	49.8	32.6	57.3	50.8
R16-39	45.5	24.2	77.5	45.1	44.0	17.7	38.8	46.2
S16-8852C	57.1	20.6	75.7	50.6	46.0	30.1	60.8	53.0
S16-9030C	65.4	27.7	95.2	55.5	57.5	22.9	61.8	61.1
S16-9090C	60.8	26.0	93.7	53.0	47.5	29.0	62.7	59.2
S16-11445C	58.8	21.0	81.5	48.6	41.9	16.8	65.6	55.1
S16-14869C	65.6	27.1	90.3	51.9	55.2	33.9	57.1	58.4
S16-15896C	67.3	20.2	91.6	47.5	65.9	25.3	63.6	58.0
S17CR-245	58.5	23.2	83.8	49.4	59.2	27.5	52.9	53.6
TN15-5012	54.3	23.3	73.9	42.6	45.1	21.4	61.5	51.1
TN16-5024	68.0	24.4	89.0	60.3	38.9	16.7	59.9	60.3
TN18-4110	60.4	25.7	92.0	55.6	18.7	18.7	62.9	59.3
TN18-4130	62.2	26.9	82.9	46.9	39.0	19.4	62.4	56.2
V14-2116	47.1	21.0	74.1	34.1	40.0	23.9	50.6	45.4
V15-1861	63.6	22.5	84.6	44.3	55.8	34.7	57.4	54.5
V15-2261ST	61.9	21.5	82.5	52.2	46.9	25.2	55.3	54.7
V16-0709PR	59.9	25.0	89.2	46.7	48.5	15.1	63.7	56.9
V16-0725PR	45.7	25.1	67.4	46.0	38.1	13.6	38.2	44.5
V16-1672RLP	44.6	24.6	67.9	42.0	44.9	14.9	40.5	43.9
Mean	57.4	23.3	80.5	47.9	46.4	22.4	57.4	53.3
LSD(0.05)	8.8	6.1	13.8	3.7	15.2	13.4	9.1	6.2
CV(%)	7.4	12.8	8.4	3.8	16.0	29.2	7.8	10.9

†Data not included in the mean: Portageville,MO(B) and Tallassee,AL.

TABLE 68 - RELATIVE MATURITY (DAYS EARLIER (-) OR LATER (+) THAN ENTRY 1)
PRELIMINARY GROUP V-EARLY 2019

STRAIN/ VARIETY	Jackson, TN	Kinston, NC	Knoxville, TN	Pittsburg, KS	Portageville, MO(B)	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	9/28	10/17	10/4	10/31	10/14	10/6	9/29	10/10
AG 53X6	4	1	1	-3	-1	-6	1	-1
AG 55X7	4	2	1	1	1	-3	2	1
DA13087-1-006F	2	-2	1	-1	0	-4	1	-1
DS115-223	6	1	1	7	-1	-8	4	1
K16-1869	0	0	1	-1	-5	-1	-2	-1
K16-1875	0	-2	1	-1	-5	-5	-2	-2
K16-1881	0	12	1	-1	-3	-4	-2	0
K16-2102	0	-5	0	-2	-3	1	-1	-2
K16-2155	2	1	1	-1	-4	-7	1	-1
N16-601	2	5	1	1	-4	-11	3	0
R16-39	2	0	1	-2	-3	0	-1	-1
S16-8852C	4	9	0	2	-1	-4	5	2
S16-9030C	6	1	0	4	1	-7	4	1
S16-9090C	6	10	0	3	1	-3	6	3
S16-11445C	6	13	1	2	1	0	5	4
S16-14869C	6	8	1	7	0	-7	4	3
S16-15896C	2	0	1	0	0	-8	5	0
S17CR-245	2	1	0	4	-1	-7	-2	0
TN15-5012	2	-5	0	-1	-1	-8	2	-2
TN16-5024	6	1	1	1	1	1	1	2
TN18-4110	2	1	2	-1	-2	-4	-1	-1
TN18-4130	4	-1	0	-1	1	1	2	1
V14-2116	2	-1	0	-2	-1	-7	2	-1
V15-1861	2	2	0	4	0	-7	2	0
V15-2261ST	6	6	0	2	-1	-2	3	2
V16-0709PR	4	13	1	4	1	-2	-1	3
V16-0725PR	6	8	0	-1	1	-4	11	3
V16-1672RLP	3	4	1	-3	3	-2	11	3
Mean	3	3	1	1	-1	-4	2	1
LSD(0.05)	3	2	1	4	2	9	3	3
CV(%)	57	41	50	366	141	111	55	537

TABLE 69 - PLANT HEIGHT (INCHES)
PRELIMINARY GROUP V-EARLY 2019

STRAIN/ VARIETY	Jackson, TN	Kinston, NC	Knoxville, TN	Pittsburg, KS	Portageville, MO(B)	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	29	29	28	31	16	34	33	28
AG 53X6	29	27	31	33	20	28	30	28
AG 55X7	28	24	29	31	21	29	29	27
DA13087-1-006F	30	26	28	29	20	31	31	28
DS115-223	37	31	34	37	23	33	33	32
K16-1869	33	28	34	29	22	32	32	30
K16-1875	35	24	29	32	19	34	29	29
K16-1881	35	30	33	30	21	35	32	31
K16-2102	32	35	34	30	19	33	34	30
K16-2155	32	31	36	32	21	26	32	30
N16-601	32	26	32	33	17	28	27	28
R16-39	29	23	33	31	20	36	26	28
S16-8852C	34	26	30	33	20	35	30	30
S16-9030C	37	29	36	38	22	32	35	33
S16-9090C	32	24	37	35	20	30	34	30
S16-11445C	30	28	34	33	20	31	32	29
S16-14869C	37	31	39	35	23	30	33	32
S16-15896C	34	24	34	32	22	31	33	30
S17CR-245	35	32	37	37	30	37	34	34
TN15-5012	27	25	24	32	22	22	28	25
TN16-5024	30	24	33	30	18	33	32	28
TN18-4110	26	22	28	29	16	30	31	26
TN18-4130	28	26	26	28	18	30	29	26
V14-2116	28	26	32	31	19	34	30	29
V15-1861	35	29	34	32	23	26	31	30
V15-2261ST	33	28	36	37	19	34	32	31
V16-0709PR	39	32	47	38	29	34	38	37
V16-0725PR	38	29	38	36	21	31	35	32
V16-1672RLP	36	32	39	35	23	30	35	33
Mean	32	28	33	32	21	31	32	30
LSD(0.05)	6	.	5	5	4	7	3	3
CV(%)	9	.	7	8	9	11	5	10

TABLE 62 - PLANT LODGING (1-5)
PRELIMINARY GROUP V-EARLY 2019

STRAIN/ VARIETY	Jackson, TN	Kinston, NC	Knoxville, TN	Pittsburg, KS	Portageville, MO(B)	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	2.0	1.5	2.0	2.0	1.0	.	1.5	1.7
AG 53X6	2.0	1.8	2.0	2.5	1.0	.	1.2	1.7
AG 55X7	1.5	2.0	2.0	1.0	1.0	.	1.1	1.4
DA13087-1-006F	1.5	1.8	2.0	1.5	1.0	.	1.5	1.5
DS115-223	2.5	2.0	2.0	1.5	1.0	.	1.4	1.7
K16-1869	2.5	2.3	2.0	3.0	1.0	.	2.4	2.2
K16-1875	1.0	1.5	2.0	2.0	1.0	.	1.2	1.5
K16-1881	2.0	2.0	2.0	3.0	1.0	.	1.5	1.9
K16-2102	1.5	2.5	2.2	2.5	1.0	.	1.9	1.9
K16-2155	3.5	2.3	3.0	3.5	1.0	.	2.8	2.7
N16-601	2.0	2.0	2.0	3.0	1.0	.	1.2	1.9
R16-39	2.0	2.0	2.0	1.5	1.0	.	1.2	1.6
S16-8852C	2.0	2.0	2.0	3.0	1.0	.	1.4	1.9
S16-9030C	3.0	2.0	2.5	4.0	1.0	.	2.1	2.4
S16-9090C	2.0	2.3	2.2	3.5	1.0	.	2.0	2.2
S16-11445C	1.5	2.0	2.0	3.5	1.0	.	1.5	1.9
S16-14869C	3.5	2.3	2.5	3.5	1.0	.	1.7	2.4
S16-15896C	2.5	1.7	2.5	2.5	1.0	.	2.0	2.0
S17CR-245	3.0	2.5	3.2	3.0	3.0	.	2.6	2.9
TN15-5012	1.0	1.7	2.0	1.0	1.0	.	1.1	1.3
TN16-5024	2.0	1.8	2.0	2.5	1.0	.	1.5	1.8
TN18-4110	2.0	2.0	2.0	2.0	1.0	.	1.5	1.8
TN18-4130	1.5	2.0	2.0	2.0	1.0	.	1.2	1.6
V14-2116	2.0	2.3	2.2	2.0	1.0	.	1.5	1.8
V15-1861	2.0	1.8	2.2	2.0	1.0	.	1.4	1.7
V15-2261ST	1.5	2.0	2.0	1.5	1.0	.	1.5	1.6
V16-0709PR	2.0	2.0	2.8	1.0	1.0	.	1.7	1.7
V16-0725PR	2.0	1.8	2.2	1.5	1.0	.	1.4	1.6
V16-1672RLP	2.5	2.0	2.3	2.5	1.0	.	1.7	2.0
Mean	2.1	2.0	2.2	2.3	1.1	.	1.6	1.9
LSD(0.05)	0.9	0.5	0.4	1.1	.	.	0.3	0.5
CV(%)	22.0	11.4	8.3	23.6	0.0	.	9.9	24.6

TABLE 71 - SEED QUALITY (1-5)
PRELIMINARY GROUP V-EARLY 2019

STRAIN/ VARIETY	Jackson, TN	Kinston, NC	Knoxville, TN	Pittsburg, KS	Portageville, MO(B)	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	2.0	.	2.0	2.0	2.0	.	1.4	1.9
AG 53X6	2.0	.	2.0	2.0	2.0	.	1.4	1.9
AG 55X7	2.0	.	2.0	2.0	3.0	.	1.2	2.0
DA13087-1-006F	2.0	.	2.0	3.0	2.5	.	1.4	2.1
DS115-223	2.0	.	2.0	2.0	3.0	.	1.2	2.1
K16-1869	2.0	.	2.0	2.0	3.5	.	1.4	2.2
K16-1875	2.0	.	2.0	2.0	2.0	.	1.2	1.8
K16-1881	2.5	.	2.0	2.0	2.0	.	1.4	2.0
K16-2102	2.0	.	2.0	2.0	2.0	.	1.4	1.9
K16-2155	2.0	.	2.0	2.0	2.0	.	1.4	1.9
N16-601	2.0	.	2.0	2.0	2.5	.	1.4	2.0
R16-39	2.5	.	2.0	2.0	2.5	.	1.5	2.1
S16-8852C	2.0	.	2.0	2.0	2.5	.	1.4	2.0
S16-9030C	2.0	.	2.0	2.0	3.5	.	1.4	2.2
S16-9090C	2.0	.	2.0	2.0	2.0	.	1.2	1.8
S16-11445C	2.0	.	2.0	2.0	2.5	.	1.2	1.9
S16-14869C	2.0	.	2.0	2.0	2.5	.	1.4	2.0
S16-15896C	2.0	.	2.0	2.0	1.0	.	1.5	1.7
S17CR-245	2.5	.	2.0	2.0	1.5	.	1.5	1.9
TN15-5012	2.0	.	2.0	3.0	1.0	.	1.4	1.8
TN16-5024	2.0	.	3.0	2.0	2.0	.	1.4	2.1
TN18-4110	2.0	.	2.0	2.0	2.0	.	1.4	1.9
TN18-4130	2.0	.	2.0	2.0	2.0	.	1.4	1.9
V14-2116	2.0	.	2.0	2.0	2.5	.	1.5	2.0
V15-1861	2.0	.	1.0	2.0	2.5	.	1.8	1.9
V15-2261ST	1.5	.	2.0	2.0	3.5	.	1.9	2.2
V16-0709PR	3.0	.	2.0	2.0	3.0	.	1.9	2.4
V16-0725PR	2.0	.	3.0	3.0	3.0	.	1.5	2.5
V16-1672RLP	2.0	.	2.0	3.0	2.0	.	1.9	2.1
Mean	2.1	.	2.0	2.1	2.3	.	1.4	2.0
LSD(0.05)	0.6	.		.	1.1	.	0.3	0.5
CV(%)	12.9	.	0.0	.	23.2	.	10.9	22.0

TABLE 72 - SEED SIZE (GRAMS PER 100 SEED)
PRELIMINARY GROUP V-EARLY 2019

STRAIN/ VARIETY	Jackson, TN	Kinston, NC	Knoxville, TN	Pittsburg, KS	Portageville, MO(B)	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	11.6	12.8	11.5	11.9	12.7	14.5	10.3	12.2
AG 53X6	13.8	17.9	12.9	15.4	16.5	18.7	13.2	15.4
AG 55X7	12.8	14.7	11.9	13.5	13.4	12.1	12.0	12.7
DA13087-1-006F	11.3	14.0	10.6	11.3	12.6	16.9	9.8	12.4
DS115-223	12.6	17.0	11.5	13.2	15.4	15.3	11.5	13.7
K16-1869	11.8	13.4	13.3	13.2	14.3	11.2	11.4	12.6
K16-1875	12.0	12.7	11.6	13.3	12.7	17.5	10.9	13.0
K16-1881	12.2	14.8	11.8	12.6	14.0	13.2	11.1	12.7
K16-2102	12.5	13.3	13.2	12.9	14.7	16.7	10.5	13.5
K16-2155	11.7	14.9	12.7	14.2	14.5	16.7	11.8	13.7
N16-601	14.8	19.3	15.6	14.8	15.4	17.9	13.9	15.9
R16-39	11.8	16.1	12.7	14.7	14.7	17.8	10.6	14.0
S16-8852C	12.4	14.1	12.7	12.5	13.7	17.4	12.1	13.6
S16-9030C	12.9	13.9	13.1	14.1	14.8	10.1	11.8	12.8
S16-9090C	12.3	16.2	12.3	14.0	15.1	12.5	11.2	13.2
S16-11445C	14.1	19.2	14.6	13.0	15.9	18.7	12.9	15.5
S16-14869C	13.2	17.0	13.0	12.0	16.0	17.4	12.6	14.5
S16-15896C	12.7	12.0	13.0	11.5	15.3	15.9	11.7	13.3
S17CR-245	10.8	12.7	11.9	11.5	13.9	14.5	10.5	12.3
TN15-5012	11.8	11.1	11.0	12.3	13.4	13.6	10.5	12.0
TN16-5024	12.7	14.2	11.9	11.5	14.0	16.7	10.2	13.1
TN18-4110	11.3	11.5	11.8	12.7	12.0	16.2	10.2	12.3
TN18-4130	12.5	11.2	11.5	12.8	12.6	15.5	9.5	12.3
V14-2116	12.8	12.6	12.7	11.8	14.7	19.7	11.7	13.9
V15-1861	14.6	15.9	13.6	14.9	16.9	18.4	12.3	15.3
V15-2261ST	13.8	14.3	11.9	13.8	15.4	19.2	12.6	14.5
V16-0709PR	14.4	18.7	15.8	17.3	16.8	18.1	13.8	16.3
V16-0725PR	10.6	16.0	12.2	12.8	13.4	14.8	10.2	12.7
V16-1672RLP	10.9	17.2	12.0	12.8	14.2	14.7	11.1	13.1
Mean	12.5	14.8	12.6	13.2	14.4	15.9	11.4	13.5
LSD(0.05)	0.9	.		.	1.1	4.9	.	1.3
CV(%)	3.6	.	0.0	.	3.6	15.0	.	10.7

TABLE 73 - OIL (%)†
PRELIMINARY GROUP V-EARLY 2019

STRAIN/ VARIETY	Jackson, TN	Kinston, NC	Knoxville, TN	Pittsburg, KS	Portageville, MO(B)	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	19.8	18.9	20.1	18.0	18.6	18.7	18.7	18.9
AG 53X6	20.2	19.0	20.7	18.6	20.4	19.4	19.4	19.7
AG 55X7	19.8	19.6	20.5	19.2	19.7	19.1	19.5	19.6
DA13087-1-006F	18.4	17.9	18.6	17.5	18.7	18.0	17.9	18.1
DS115-223	18.2	18.5	18.4	16.9	18.7	20.0	18.0	18.4
K16-1869	20.6	19.4	21.0	19.1	20.3	19.6	19.2	19.9
K16-1875	20.5	20.0	21.2	19.1	20.2	19.1	19.6	19.9
K16-1881	19.9	18.8	20.6	18.9	19.3	19.3	19.1	19.4
K16-2102	19.5	20.7	20.6	18.5	19.5	19.1	18.7	19.5
K16-2155	18.9	19.2	20.0	18.2	19.2	20.1	18.8	19.2
N16-601	19.4	19.8	20.1	18.4	19.9	19.0	19.0	19.4
R16-39	19.3	20.3	20.1	17.4	20.0	19.5	18.5	19.3
S16-8852C	20.9	19.7	22.0	19.2	21.9	19.5	20.7	20.6
S16-9030C	20.3	19.5	20.4	18.5	19.8	19.5	19.5	19.6
S16-9090C	20.9	19.7	21.4	18.8	20.5	18.9	20.1	20.0
S16-11445C	20.8	19.9	21.5	19.1	20.7	19.8	20.2	20.3
S16-14869C	20.0	19.2	21.3	17.8	20.3	19.7	19.8	19.7
S16-15896C	19.6	18.1	20.0	17.7	19.2	19.4	18.4	18.9
S17CR-245	20.3	19.4	21.0	18.1	20.4	19.6	19.9	19.8
TN15-5012	19.4	18.9	19.6	18.1	18.8	19.8	19.0	19.1
TN16-5024	19.1	18.1	19.2	19.0	18.4	18.5	18.5	18.7
TN18-4110	20.1	20.9	20.3	18.9	20.0	18.7	19.2	19.7
TN18-4130	19.6	19.7	19.8	18.4	19.4	18.7	18.8	19.2
V14-2116	19.2	19.8	19.3	18.5	19.7	19.5	19.7	19.4
V15-1861	19.6	20.0	20.5	17.9	19.9	19.0	19.2	19.5
V15-2261ST	19.0	19.5	19.4	18.3	19.1	18.5	19.7	19.1
V16-0709PR	20.2	20.2	20.9	18.4	20.5	19.8	20.2	20.0
V16-0725PR	17.6	18.2	18.9	18.1	18.8	17.5	18.2	18.2
V16-1672RLP	18.1	19.7	18.9	18.2	19.4	17.8	18.5	18.6
Mean	19.6	19.4	20.2	18.4	19.7	19.1	19.2	19.4
LSD(0.05)	.	.	.	.	.	.	.	0.5
CV(%)	.	.	.	.	.	.	.	2.6

†Oil percentage is reported on a 13% moisture basis beginning in 2015.

TABLE 74 - PROTEIN (%)†
PRELIMINARY GROUP V-EARLY 2019

STRAIN/ VARIETY	Jackson, TN	Kinston, NC	Knoxville, TN	Pittsburg, KS	Portageville, MO(B)	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	35.5	35.3	34.1	36.3	34.4	39.3	34.4	35.6
AG 53X6	34.6	35.7	33.7	35.9	33.5	38.8	33.6	35.1
AG 55X7	36.3	35.4	34.8	40.0	35.1	39.7	33.8	36.4
DA13087-1-006F	37.3	38.0	37.4	37.5	36.3	41.0	35.9	37.6
DS115-223	39.6	38.1	38.3	38.5	38.2	40.4	37.3	38.6
K16-1869	35.4	37.1	35.0	36.4	35.1	40.5	35.0	36.4
K16-1875	35.3	36.7	35.0	36.9	35.2	42.0	34.5	36.5
K16-1881	36.8	37.3	36.1	36.5	36.0	41.4	34.8	37.0
K16-2102	37.0	34.2	35.0	37.4	35.7	39.3	35.4	36.3
K16-2155	37.0	36.5	35.2	36.8	36.1	40.4	34.9	36.7
N16-601	37.5	37.4	36.6	38.6	35.6	40.5	36.3	37.5
R16-39	35.0	32.0	33.0	35.7	32.9	37.4	32.9	34.1
S16-8852C	34.6	36.1	32.6	35.3	31.7	39.0	32.9	34.6
S16-9030C	35.2	35.2	34.4	35.4	35.3	39.9	33.8	35.6
S16-9090C	34.0	35.1	32.5	35.2	34.0	37.6	32.8	34.4
S16-11445C	35.4	35.2	33.7	35.7	34.5	39.0	33.4	35.3
S16-14869C	35.5	34.8	31.5	35.7	33.9	38.2	33.0	34.7
S16-15896C	36.4	37.5	35.3	36.9	36.0	39.5	35.5	36.7
S17CR-245	35.1	36.1	34.1	36.0	34.7	38.8	33.4	35.4
TN15-5012	37.5	36.7	36.3	37.6	38.0	41.2	35.7	37.6
TN16-5024	35.0	35.9	33.6	33.9	34.8	37.8	33.7	34.9
TN18-4110	36.5	41.2	35.2	36.6	34.8	39.0	35.0	36.9
TN18-4130	37.0	36.1	35.9	37.2	35.2	39.1	35.5	36.6
V14-2116	38.6	36.6	37.3	37.9	36.6	39.9	34.6	37.3
V15-1861	35.5	33.9	33.6	36.8	33.9	38.7	33.6	35.1
V15-2261ST	38.9	37.7	37.0	37.6	38.2	39.4	34.8	37.7
V16-0709PR	35.8	35.2	34.1	35.2	33.9	37.6	32.9	34.9
V16-0725PR	38.8	38.4	36.4	37.1	36.7	39.8	35.5	37.5
V16-1672RLP	37.0	35.4	34.4	36.9	33.7	38.7	34.8	35.8
Mean	36.3	36.2	34.9	36.7	35.2	39.4	34.5	36.2
LSD(0.05)	.	.	.	.	.	.	.	0.9
CV(%)	.	.	.	.	.	.	.	2.4

†Protein percentage is reported on a 13% moisture basis beginning in 2015.

TABLE 75 - ESTIMATED MEAL PROTEIN (%)†
PRELIMINARY GROUP V-EARLY 2019

STRAIN/ VARIETY	Jackson, TN	Kinston, NC	Knoxville, TN	Pittsburg, KS	Portageville, MO(B)	Tallassee, AL	Warsaw, VA	Test Mean
Ellis	48.2	47.3	46.4	48.1	45.9	52.5	46.0	47.8
AG 53X6	47.1	47.9	46.2	47.9	45.7	52.3	45.4	47.5
AG 55X7	49.1	47.9	47.5	53.8	47.5	53.3	45.5	49.2
DA13087-1-006F	49.7	50.3	49.9	49.4	48.5	54.4	47.5	49.9
DS115-223	52.6	50.8	51.0	50.3	51.1	54.8	49.4	51.4
K16-1869	48.5	50.0	48.2	48.9	47.9	54.8	47.0	49.3
K16-1875	48.3	49.8	48.2	49.6	48.0	56.4	46.7	49.6
K16-1881	49.9	49.9	49.4	48.9	48.5	55.7	46.8	49.9
K16-2102	50.0	46.9	48.0	49.9	48.3	52.7	47.3	49.0
K16-2155	49.6	49.1	47.8	48.9	48.5	55.0	46.7	49.4
N16-601	50.6	50.7	49.8	51.5	48.3	54.3	48.7	50.5
R16-39	47.1	43.7	44.9	47.0	44.8	50.5	43.9	46.0
S16-8852C	47.5	48.9	45.3	47.5	44.1	52.7	45.1	47.3
S16-9030C	48.0	47.6	47.0	47.3	47.9	53.9	45.7	48.2
S16-9090C	46.7	47.5	44.9	47.1	46.5	50.4	44.6	46.8
S16-11445C	48.6	47.8	46.7	48.0	47.3	52.9	45.5	48.1
S16-14869C	48.2	46.8	43.5	47.2	46.2	51.7	44.7	46.9
S16-15896C	49.2	49.8	48.0	48.7	48.5	53.3	47.2	49.2
S17CR-245	47.8	48.7	46.9	47.7	47.4	52.4	45.4	48.0
TN15-5012	50.6	49.2	49.0	49.9	50.9	55.9	47.9	50.5
TN16-5024	47.0	47.6	45.2	45.5	46.3	50.4	44.9	46.7
TN18-4110	49.7	56.5	48.0	49.1	47.3	52.2	47.1	50.0
TN18-4130	50.0	48.8	48.6	49.5	47.5	52.2	47.6	49.2
V14-2116	51.9	49.6	50.3	50.6	49.5	53.8	46.8	50.4
V15-1861	48.0	46.1	45.9	48.7	46.0	52.0	45.2	47.4
V15-2261ST	52.2	50.9	49.9	50.0	51.3	52.5	47.1	50.6
V16-0709PR	48.7	47.9	46.9	46.8	46.3	50.9	44.7	47.5
V16-0725PR	51.1	50.9	48.8	49.3	49.2	52.4	47.2	49.9
V16-1672RLP	49.1	47.8	46.1	49.0	45.5	51.2	46.4	47.9
Mean	49.1	48.8	47.5	48.8	47.6	53.0	46.4	48.8
LSD(0.05)	.	.	.	.	.	.	.	1.1
CV(%)	.	.	.	.	.	.	.	2.2

†Estimated meal protein percentage is reported on a 13% moisture basis.

SUMMARY OF SEED FATTY ACIDS (%)
PRELIMINARY TEST V-EARLY 2019 †

STRAIN/ VARIETY	Palmitic Acid	Stearic Acid	Oleic Acid	Linoleic Acid	Linolenic Acid
Ellis	11.0	4.0	20.0	57.0	7.2
AG 53X6	12.0	3.8	23.0	54.0	6.9
AG 55X7	11.0	3.4	25.0	54.0	6.4
S17CR-245	7.1	2.5	82.0	4.1	4.1
TN18-4110	7.5	2.7	85.0	3.1	2.0
TN18-4130	7.6	2.8	81.0	6.2	2.2
Mean	9.4	3.2	53.0	30.0	4.8
LSD(0.05)	0.5	0.3	6.3	5.3	0.7
CV(%)	3.7	6.5	7.7	11.0	9.5

†Fatty acid percentage in seed oil reported beginning in 2017.

SEED PALMITIC ACID (%)
PRELIMINARY GROUP V-EARLY 2019

STRAIN/ VARIETY	Jackson, TN	Knoxville, TN	Portageville, MO(B)	Warsaw, VA	Test Mean
Ellis	11.4	11.2	11.5	11.5	11.4
AG 53X6	12.1	11.7	11.4	11.7	11.7
AG 55X7	11.3	11.3	10.3	11.5	11.1
S17CR-245	7.2	6.9	7.1	7.3	7.1
TN18-4110		7.4	7.6	7.6	7.5
TN18-4130	7.2	7.2	7.4	8.5	7.6
Mean	9.8	9.3	9.2	9.7	9.4
LSD(0.05)	.	.	.	.	0.5
CV(%)	.	.	.	.	3.7

SEED STEARIC ACID (%)
PRELIMINARY GROUP V-EARLY 2019

STRAIN/ VARIETY	Jackson, TN	Knoxville, TN	Portageville, MO(B)	Warsaw, VA	Test Mean
Ellis	4.4	3.8	3.8	4.1	4.0
AG 53X6	3.4	3.7	3.9	4.0	3.8
AG 55X7	3.3	3.4	2.9	3.8	3.4
S17CR-245	2.4	2.5	2.5	2.8	2.5
TN18-4110		2.6	2.7	2.8	2.7
TN18-4130	2.7	2.7	2.5	3.1	2.8
Mean	3.3	3.1	3.1	3.4	3.2
LSD(0.05)	.	.	.	.	0.3
CV(%)	.	.	.	.	6.5

SEED OLEIC ACID (%)
PRELIMINARY GROUP V-EARLY 2019

STRAIN/ VARIETY	Jackson, TN	Knoxville, TN	Portageville, MO(B)	Warsaw, VA	Test Mean
Ellis	22.0	20.6	20.9	17.4	20.2
AG 53X6	20.6	23.4	26.1	22.9	23.2
AG 55X7	22.5	21.9	34.9	19.2	24.6
S17CR-245	82.7	83.3	83.6	79.0	82.1
TN18-4110		85.0	85.1	83.8	84.7
TN18-4130	85.6	85.5	85.3	68.5	81.2
Mean	46.7	53.3	56.0	48.5	52.7
LSD(0.05)	.	.	.	.	6.3
CV(%)	.	.	.	.	7.7

SEED LINOLEIC ACID (%)
PRELIMINARY GROUP V-EARLY 2019

STRAIN/ VARIETY	Jackson, TN	Knoxville, TN	Portageville, MO(B)	Warsaw, VA	Test Mean
Ellis	56.1	57.2	56.7	58.7	57.2
AG 53X6	56.9	54.3	52.5	53.8	54.4
AG 55X7	57.0	57.2	46.4	57.3	54.5
S17CR-245	3.7	3.6	3.1	5.9	4.1
TN18-4110		2.9	2.7	3.6	3.1
TN18-4130	2.7	2.8	2.9	16.5	6.2
Mean	35.3	29.7	27.4	32.6	29.9
LSD(0.05)	.	.	.	.	5.3
CV(%)	.	.	.	.	11.4

SEED LINOLENIC ACID (%)
PRELIMINARY GROUP V-EARLY 2019

STRAIN/ VARIETY	Jackson, TN	Knoxville, TN	Portageville, MO(B)	Warsaw, VA	Test Mean
Ellis	6.2	7.2	7.2	8.3	7.2
AG 53X6	7.0	7.0	6.1	7.6	6.9
AG 55X7	5.9	6.2	5.5	8.1	6.4
S17CR-245	4.0	3.7	3.8	5.0	4.1
TN18-4110		2.2	1.9	2.2	2.0
TN18-4130	1.8	1.8	1.9	3.4	2.2
Mean	5.0	4.7	4.4	5.8	4.8
LSD(0.05)	.	.	.	.	0.7
CV(%)	.	.	.	.	9.5

TABLE 76 - PARENTAGE OF ENTRIES
PRELIMINARY GROUP V-LATE 2019

Ent	Strain/Variety	Parentage	Source	Fn	Trans-genic†	Special Traits‡
1	UA 5612	Commercial check	Commercial		Conv	
2	TN11-5140	Hutcheson x TN89-39	Pantalone		Conv	
3	AG 55X7	Commercial check	Commercial		RRX	
4	N16-591	N08-145 x Pro5-1	Mian	F4	Conv	>50% meal
5	NDPJE-14-194	N07-14221 x Clifford	Carter	F4	Conv	Diversity
6	NDPJE-14-217	N07-14221 x Clifford	Carter	F4	Conv	Diversity
7	R13-12468	R07-7232 x R01-581F	Mozzoni	F2:3	Conv	
8	R16-45	R07-6669 x UA5612	Mozzoni	F2:3	Conv	
9	R16-378	TN08-100 x R11-262	Mozzoni	F3:4	Conv	
10	R16-4053	R09-5235 x R05-5559	Mozzoni	F3:4	Conv	
11	TN17-5002	TN11-5102 x S09-12096	Pantalone		Conv	
12	TN17-5054	NCC09-200719-1-37 x 13-50454	Pantalone		Conv	
13	TN17-5056	TN11-5102 x S09-12096	Pantalone		Conv	
14	TN17-5070	JTN-5203 / (G03-3101 / LD00-2817P)	Pantalone		Conv	
15	V14-0988	V03-4705 x V03-3650	Zhang	F4	Conv	
16	V15-1815DI	Ozark x G08-PR-394	Zhang	F4	Conv	12.5 % (PI 423912)
17	V15-1872	Ozark x NCC06-339	Zhang	F4	Conv	

†Conv= Conventional(non-transgenic),LL= Liberty Link®, RR1= Roundup Ready®, RR2= Roundup Ready 2 Yield®, and RRX= Roundup Ready 2 Xtend®

‡AA= modified amino acids, DNC= Do not cross with this, FLS= Frogeye leaf spot resistance, LJ= Long juvenile, LN= low linolenic acid, LP= low phytate, HO= high oleic acid, HOLN= high oleic acid/low linolenic acid, SCN= Soybean cyst nematode resistance, SR= Soybean rust resistance, and STS= sulfonylurea tolerant

TABLE 77 - GENERAL SUMMARY OF PERFORMANCE
PRELIMINARY TEST V-LATE 2019

STRAIN/ VARIETY	SEED YIELD†	RANK	AVG. RANK	MAT. INDEX	LOD	HT	SCN Cyst Score (1-5)‡ Race 2	Race 3	Race 5	SC RATING	SC SCORE
UA 5612	51.2	3	7	0	2.6	36	5	4	5	R	1
TN11-5140	53.0	2	4	3	2.4	37	4	4	4	R	1
AG 55X7	50.9	4	7	-4	1.4	30	4	4	5	R	1
N16-591	46.1	15	14	-5	2.1	26	4	4	5	R	1
NDPJE-14-194	50.0	5	7	1	2.4	32	4	4	3	S	5
NDPJE-14-217	48.7	10	11	-1	2.1	31	4	4	4	S	5
R13-12468	46.6	14	13	1	2.1	29	2	3	3	MS	4
R16-45	50.0	6	8	0	2.4	36	4	3	5	R	1
R16-378	53.2	1	3	-2	2.2	34	5	3	5	R	1
R16-4053	44.5	17	12	2	2.3	34	4	3	4	MS	4
TN17-5002	48.0	11	11	3	2.0	34	5	4	5	R	1
TN17-5054	47.0	12	11	1	1.6	35	5	3	4	R	1
TN17-5056	49.2	8	7	3	1.9	29	4	3	5	R	1
TN17-5070	45.0	16	12	2	2.2	33	1	1	1	R	1
V14-0988	46.8	13	12	-1	1.9	32	3	3	5	S	5
V15-1815DI	49.7	7	7	-1	2.0	34	4	3	4	R	1
V15-1872	49.2	9	8	-2	1.7	34	4	4	5	R	1
Mean	48.8	.	.	0	2.1	33	.	.	.		.
LSD(0.05)	5.6	.	.	3	0.6	2	.	.	.		.
CV(%)	9.5	.	.	.	21.8	7	.	.	.		.

†Data not included in the mean: Tallassee,AL.

‡The race 2, 3, and 5 SCN populations used in these tests were typed as HG (Heterodera glycines) Type 1.2.5.7, HG Type 5.7, and HG Type 2.5.7, respectively.

TABLE 78 - GENERAL SUMMARY OF PERFORMANCE (continued)
PRELIMINARY TEST V-LATE 2019

STRAIN/ VARIETY	SEED QUALITY	SEED SIZE	PROTEIN§ %	OIL§ %	MEAL PRO%	FL COLOR	PUB. COLOR	POD COLOR
UA 5612	1.7	12.5	35.3	19.3	47.5	P	G	T
TN11-5140	1.8	14.4	34.9	20.0	47.3	W	G	T
AG 55X7	1.7	12.8	34.8	19.9	47.2			
N16-591	1.7	13.6	36.9	19.2	49.6	P	T	
NDPJE-14-194	1.8	16.0	36.0	19.0	48.3	P	T	
NDPJE-14-217	1.8	16.4	35.7	19.5	48.1	P	T	
R13-12468	1.8	14.2	34.8	19.9	47.1		G	T
R16-45	1.8	11.8	35.3	19.1	47.4		G	
R16-378	1.8	13.2	35.2	19.2	47.3		G	
R16-4053	1.9	13.9	34.8	20.0	47.4		G	T
TN17-5002	1.8	14.2	35.2	18.9	47.2	W	G	
TN17-5054	1.9	13.3	36.5	18.8	48.8	P	G	
TN17-5056	1.8	12.1	35.5	18.3	47.2	W	G	
TN17-5070	1.7	12.9	35.2	19.3	47.5	W	G	
V14-0988	1.8	15.2	37.3	19.4	50.3	P	T	
V15-1815DI	2.0	15.6	34.5	20.4	47.1	P	G	
V15-1872	2.1	16.1	34.8	19.2	46.7	P	G	
Mean	1.8	14.0	35.4	19.4	47.8			
LSD(0.05)	0.5	1.3	1.0	0.5	1.1			
CV(%)	17.4	7.9	2.1	2.0	1.9			

§Protein percentage and oil percentage are reported on a 13% moisture basis beginning in 2015.

TABLE 79 - SEED YIELD (BUSHELS PER ACRE)
PRELIMINARY GROUP V-LATE 2019 †

STRAIN/ VARIETY	Kinston, NC	Knoxville, TN	Pittsburg, KS	Tallassee, AL	Warsaw, VA	Test Mean
UA 5612	22.1	85.2	41.6	36.4	56.2	51.2
TN11-5140	23.2	90.4	41.5	34.1	56.9	53.0
AG 55X7	18.3	85.4	43.9	39.0	55.9	50.9
N16-591	20.5	76.7	39.1	41.8	48.1	46.1
NDPJE-14-194	22.8	83.0	42.7	45.4	51.7	50.0
NDPJE-14-217	20.3	82.1	40.3	49.5	51.9	48.7
R13-12468	18.6	78.5	39.1	43.6	50.1	46.6
R16-45	19.4	74.6	48.5	45.8	57.6	50.0
R16-378	22.3	85.7	45.2	40.1	59.6	53.2
R16-4053	21.8	62.7	41.5	35.3	52.1	44.5
TN17-5002	22.2	76.7	41.4	37.9	51.6	48.0
TN17-5054	22.1	73.8	42.0	32.5	50.2	47.0
TN17-5056	25.8	76.8	41.9	46.4	52.4	49.2
TN17-5070	.	67.9	47.7	37.2	46.8	45.0
V14-0988	22.3	74.1	41.0	30.8	49.8	46.8
V15-1815DI	21.7	78.2	42.8	50.1	56.2	49.7
V15-1872	20.3	77.4	43.5	52.5	55.5	49.2
Mean	21.5	78.2	42.5	41.1	53.1	48.8
LSD(0.05)	6.4	11.4	2.8	17.3	5.3	5.6
CV(%)	14.0	6.9	3.1	18.5	4.7	9.5

†Data not included in the mean: Tallassee,AL.

TABLE 80 - RELATIVE MATURITY (DAYS EARLIER (-) OR LATER (+) THAN ENTRY 1)
PRELIMINARY GROUP V-LATE 2019

STRAIN/ VARIETY	Kinston, NC	Knoxville, TN	Pittsburg, KS	Tallassee, AL	Warsaw, VA	Test Mean
UA 5612	10/17	10/5	11/7	10/7	10/6	10/15
TN11-5140	1	3	0	4	9	3
AG 55X7	-2	0	-6	-6	-5	-4
N16-591	-6	0	-9	-10	-3	-5
NDPJE-14-194	6	2	-3	-2	1	1
NDPJE-14-217	1	1	-4	-2	-2	-1
R13-12468	2	3	-4	5	-1	1
R16-45	7	1	-3	-5	2	0
R16-378	0	1	-8	-1	-1	-2
R16-4053	4	2	1	2	5	2
TN17-5002	8	2	0	1	6	3
TN17-5054	2	1	-1	-1	4	1
TN17-5056	10	1	-2	-2	5	3
TN17-5070	7	1	2	-3	3	2
V14-0988	0	0	-4	-2	-3	-1
V15-1815DI	1	0	-2	-4	0	-1
V15-1872	2	1	-4	-5	-2	-2
Mean	3	1	-3	-2	1	0
LSD(0.05)	2	1	4	6	3	3
CV(%)	43	67	64	156	121	14447

TABLE 81 - PLANT HEIGHT (INCHES)
PRELIMINARY GROUP V-LATE 2019

STRAIN/ VARIETY	Kinston, NC	Knoxville, TN	Pittsburg, KS	Tallassee, AL	Warsaw, VA	Test Mean
UA 5612	32	38	36	37	36	36
TN11-5140	36	39	36	41	35	37
AG 55X7	23	35	29	34	28	30
N16-591	17	29	28	31	25	26
NDPJE-14-194	27	34	33	35	31	32
NDPJE-14-217	22	34	33	37	29	31
R13-12468	21	31	28	37	29	29
R16-45	26	39	39	39	38	36
R16-378	25	36	35	39	34	34
R16-4053	29	40	33	37	34	34
TN17-5002	28	37	34	39	32	34
TN17-5054	27	37	37	43	31	35
TN17-5056	26	32	30	32	27	29
TN17-5070	28	36	33	38	30	33
V14-0988	26	35	31	40	28	32
V15-1815DI	29	39	34	39	32	34
V15-1872	31	37	33	37	31	34
Mean	27	36	33	37	31	33
LSD(0.05)	.	6	4	4	2	2
CV(%)	.	8	5	5	4	7

TABLE 72 - PLANT LODGING (1-5)
PRELIMINARY GROUP V-LATE 2019

STRAIN/ VARIETY	Kinston, NC	Knoxville, TN	Pittsburg, KS	Tallassee, AL	Warsaw, VA	Test Mean
UA 5612	2.3	3.0	3.5	.	1.8	2.6
TN11-5140	2.5	2.0	3.5	.	1.5	2.4
AG 55X7	1.7	1.8	1.0	.	1.1	1
N16-591	2.3	2.0	3.0	.	1.4	2.1
NDPJE-14-194	2.5	2.5	3.0	.	1.5	2.4
NDPJE-14-217	2.3	2.0	3.0	.	1.4	2.1
R13-12468	2.7	2.0	2.5	.	1.2	2.1
R16-45	2.3	2.8	3.0	.	1.8	2.4
R16-378	2.5	2.0	3.0	.	1.5	2.2
R16-4053	2.5	2.5	3.0	.	1.4	2.3
TN17-5002	2.0	2.5	2.0	.	1.4	2.0
TN17-5054	2.3	2.0	1.0	.	1.2	1.6
TN17-5056	2.0	2.0	2.0	.	1.5	1.9
TN17-5070	2.3	2.0	3.5	.	1.3	2.2
V14-0988	2.0	2.0	2.5	.	1.2	1.9
V15-1815DI	2.3	2.5	2.0	.	1.2	2.0
V15-1872	2.2	2.0	1.5	.	1.2	1.7
Mean	2.3	2.2	2.5	.	1.4	2.1
LSD(0.05)	0.7	0.7	0.7	.	0.4	0.6
CV(%)	14.7	16.0	13.8	.	12.5	21.8

TABLE 83 - SEED QUALITY (1-5)
PRELIMINARY GROUP V-LATE 2019

STRAIN/ VARIETY	Kinston, NC	Knoxville, TN	Pittsburg, KS	Tallassee, AL	Warsaw, VA	Test Mean
UA 5612	.	2.0	2.0	.	1	1.7
TN11-5140	.	2.0	2.0	.	2	1.8
AG 55X7	.	2.0	2.0	.	1	2
N16-591	.	2.0	2.0	.	1	1.7
NDPJE-14-194	.	2.0	2.0	.	2	1.8
NDPJE-14-217	.	2.0	2.0	.	1	1.8
R13-12468	.	2.0	2.0	.	1	1.8
R16-45	.	2.0	2.0	.	2	1.8
R16-378	.	2.0	2.0	.	2	1.8
R16-4053	.	2.0	2.0	.	2	1.9
TN17-5002	.	2.0	2.0	.	2	1.8
TN17-5054	.	2.0	2.0	.	2	1.9
TN17-5056	.	2.0	2.0	.	2	1.8
TN17-5070	.	1.0	2.0	.	2	1.7
V14-0988	.	2.0	2.0	.	2	1.8
V15-1815DI	.	2.0	3.0	.	1	2.0
V15-1872	.	2.0	3.0	.	2	2.1
Mean	.	1.9	2.1	.	2	1.8
LSD(0.05)	.	.	.	.	0	0.5
CV(%)	.	0.0	.	.	12	17.4

TABLE 84 - SEED SIZE (GRAMS PER 100 SEED)
PRELIMINARY GROUP V-LATE 2019

STRAIN/ VARIETY	Kinston, NC	Knoxville, TN	Pittsburg, KS	Tallassee, AL	Warsaw, VA	Test Mean
UA 5612	13.6	12.5	10.9	15	11	12.5
TN11-5140	13.3	13.3	14.1	20	12	14.4
AG 55X7	12.1	12.5	12.8	16	11	12.8
N16-591	14.0	13.3	12.9	16	13	13.6
NDPJE-14-194	15.1	15.8	16.4	19	14	16.0
NDPJE-14-217	15.8	15.9	15.5	21	13	16.4
R13-12468	14.5	13.4	12.3	18	12	14.2
R16-45	11.3	10.6	11.3	15	11	11.8
R16-378	12.6	12.0	11.3	18	12	13.2
R16-4053	13.5	12.5	13.7	18	12	13.9
TN17-5002	16.0	14.0	13.5	15	13	14.2
TN17-5054	13.0	13.2	12.7	16	12	13.3
TN17-5056	11.9	12.5	10.8	14	11	12.1
TN17-5070	13.8	11.3	14.0	14	12	12.9
V14-0988	16.1	13.6	15.0	19	13	15.2
V15-1815DI	15.3	14.1	16.1	19	14	15.6
V15-1872	16.5	15.0	14.3	21	14	16.1
Mean	14.0	13.3	13.4	17	12	14.0
LSD(0.05)	.	.	.	3	.	1.3
CV(%)	.	0.0	.	7	.	7.9

TABLE 85 - OIL (%)†
PRELIMINARY GROUP V-LATE 2019

STRAIN/ VARIETY	Kinston, NC	Knoxville, TN	Pittsburg, KS	Tallassee, AL	Warsaw, VA	Test Mean
UA 5612	20.9	20.1	17.6	.	18.9	19.3
TN11-5140	21.5	20.7	18.1	.	20.0	20.0
AG 55X7	21.0	20.6	18.2	19.5	20.1	19.9
N16-591	20.4	20.1	17.4	19.3	18.6	19.2
NDPJE-14-194	19.5	20.0	17.6	18.9	19.0	19.0
NDPJE-14-217	20.5	20.6	17.8	18.8	19.7	19.5
R13-12468	21.1	20.6	18.5	19.2	20.0	19.9
R16-45	20.4	20.0	16.9	18.9	19.1	19.1
R16-378	20.2	19.8	18.0	18.6	19.4	19.2
R16-4053	21.3	20.2	18.4	19.7	20.6	20.0
TN17-5002	19.9	19.4	17.0	19.2	19.0	18.9
TN17-5054	20.8	19.5	16.6	18.3	18.8	18.8
TN17-5056	19.8	18.8	15.9	18.5	18.6	18.3
TN17-5070	.	19.4	18.2	18.8	19.8	19.3
V14-0988	19.6	20.5	18.2	19.4	19.5	19.4
V15-1815DI	21.0	21.0	19.3	20.1	20.4	20.4
V15-1872	20.1	20.0	17.8	18.6	19.3	19.2
Mean	20.5	20.1	17.7	19.1	19.5	19.4
LSD(0.05)	.	.	.	.	.	0.5
CV(%)	.	.	.	.	.	2.0

†Oil percentage is reported on a 13% moisture basis beginning in 2015.

TABLE 86 - PROTEIN (%)†
PRELIMINARY GROUP V-LATE 2019

STRAIN/ VARIETY	Kinston, NC	Knoxville, TN	Pittsburg, KS	Tallassee, AL	Warsaw, VA	Test Mean
UA 5612	33.4	34.2	36.9	.	34.0	35.3
TN11-5140	32.1	34.5	36.5	.	33.7	34.9
AG 55X7	32.8	34.0	36.1	37.9	33.1	34.8
N16-591	34.8	34.8	38.8	39.2	36.8	36.9
NDPJE-14-194	35.5	34.4	36.9	38.9	34.2	36.0
NDPJE-14-217	34.1	34.6	37.3	38.7	33.5	35.7
R13-12468	33.0	34.0	35.8	37.7	33.2	34.8
R16-45	33.2	33.9	37.1	38.4	34.1	35.3
R16-378	33.6	34.2	36.1	38.1	33.9	35.2
R16-4053	33.0	34.9	35.8	37.6	33.0	34.8
TN17-5002	34.1	34.3	36.5	36.0	35.2	35.2
TN17-5054	33.3	36.0	38.0	39.6	35.6	36.5
TN17-5056	33.6	33.6	38.2	37.8	34.2	35.5
TN17-5070	.	34.6	37.6	37.1	33.3	35.2
V14-0988	38.1	36.2	37.6	40.0	34.7	37.3
V15-1815DI	33.2	34.1	35.1	37.3	33.1	34.5
V15-1872	33.2	34.0	35.9	37.0	33.8	34.8
Mean	33.8	34.5	36.8	38.1	34.1	35.4
LSD(0.05)	.	.	.	.	.	1.0
CV(%)	.	.	.	.	.	2.1

†Protein percentage is reported on a 13% moisture basis beginning in 2015.

TABLE 87 - ESTIMATED MEAL PROTEIN (%)†
PRELIMINARY GROUP V-LATE 2019

STRAIN/ VARIETY	Kinston, NC	Knoxville, TN	Pittsburg, KS	Tallassee, AL	Warsaw, VA	Test Mean
UA 5612	45.8	46.5	48.6	.	45.6	47.5
TN11-5140	44.5	47.3	48.4	.	45.8	47.3
AG 55X7	45.1	46.5	48.0	51.1	45.0	47.2
N16-591	47.5	47.3	51.0	52.9	49.2	49.6
NDPJE-14-194	48.0	46.7	48.6	52.1	45.9	48.3
NDPJE-14-217	46.6	47.4	49.3	51.9	45.4	48.1
R13-12468	45.5	46.6	47.7	50.8	45.2	47.1
R16-45	45.4	46.0	48.5	51.4	45.8	47.4
R16-378	45.8	46.3	47.8	50.9	45.7	47.3
R16-4053	45.5	47.5	47.7	50.9	45.2	47.4
TN17-5002	46.2	46.3	47.7	48.4	47.3	47.2
TN17-5054	45.7	48.5	49.6	52.7	47.6	48.8
TN17-5056	45.5	45.0	49.3	50.4	45.6	47.2
TN17-5070	.	46.6	50.0	49.7	45.1	47.5
V14-0988	51.5	49.4	50.0	53.9	46.9	50.3
V15-1815DI	45.7	46.9	47.2	50.8	45.2	47.1
V15-1872	45.2	46.1	47.4	49.4	45.6	46.7
Mean	46.2	46.9	48.7	51.1	46.0	47.8
LSD(0.05)	.	.	.	.	.	1.1
CV(%)	.	.	.	.	.	1.9

†Estimated meal protein percentage is reported on a 13% moisture basis.

TABLE 88 - PARENTAGE OF ENTRIES
UNIFORM GROUP VI 2019

Ent	Strain/Variety	Parentage	Source	Fn	Trans-genic†	Special Traits‡
1	AG64X8 RR2X	Commercial check	Commercial		RRX	
2	NC-Dunphy	MD99-6226 x N97-9677	Carter		Conv	
3	NC-Dilday	N99-8137 x TN99-117	Carter		Conv	
4	CZ6316LL	Commercial check	Commercial		LL	
5	G13-2842R2	R01-2346 x [G00-3880 x RR2Y]	Zenglu Li	F7d	RR2	
6	G14-6063	G08PR-394 x G09PR-25	Zenglu Li	F5d	Conv	
7	G15-1038R2	G10PR-56248R2 x G10PR-56466R2	Zenglu Li	F5d	RR2	
8	G15-1811R2	R04-342 x G09PR-54457R2	Zenglu Li	F7d	RR2	
9	G15-3361R2	N05-7432 x G09PR-54329R2	Zenglu Li	F7d	RR2	
10	G15-3606R2	G08PR-394 x G09PR-54329R2	Zenglu Li	F7d	RR2	
11	G15PR-340	{G00-3880 (4) x [Benning low lin/low palm]} x {G00-3880(4) x [G00-3213 x (17D x S08-14788)]}	Zenglu Li	BC4F3d	Conv	
12	N08-105	N99-186 x TN99-117	Mian	F4	Conv	Meal
13	N09-209	N02-205 x MD97-6065	Mian	F4	Conv	Meal
14	N10-7412	5157 x 93705-50	Carter	F4	Conv	Drought
15	N11-9228	N03-12249 x N03-11895	Carter	F4	Conv	Diversity
16	N11-9298	N03-12249 x N03-11895	Carter	F4	Conv	Diversity
17	N16-9211	N7103 x NMS5-48-2-75	Carter	F4	Conv	Diversity

†Conv= Conventional(non-transgenic), LL= Liberty Link®, RR1= Roundup Ready®, and RR2=Roundup Ready 2 Yield®
RRX= Roundup Ready 2 Xtend®
‡AA= modified amino acids, DNC= Do not cross with this, FLS= Frogeye leaf spot resistance, LJ= Long juvenile,
LN= low linolenic acid, LP= low phytate, HO= high olelic acid, HOLN= high oleic acid/low linolenic acid,
SCN= Soybean cyst nematode resistance, SR= Soybean rust resistance,
and STS= sulfonylurea tolerant

TABLE 89 - GENERAL SUMMARY OF PERFORMANCE
UNIFORM TEST VI 2019

STRAIN/		AVG.	YIELD†			PROTEIN‡			OIL‡		
VARIETY	RANK	RANK	2019	18-19	17-19	2019	18-19	17-19	2019	18-19	17-19
AG64X8 RR2X	8	10	54.1	51.3	.	36.0	35.9	.	19.3	19.4	.
NC-Dunphy	10	10	53.4	52.1	52.6	34.9	34.7	34.4	20.1	20.2	19.9
NC-Dilday	11	10	52.3	52.4	52.2	35.1	34.2	33.9	20.6	20.8	20.5
CZ6316LL	14	11	51.7	.	.	34.3	.	.	20.6	.	.
G13-2842R2	4	5	59.2	57.9	58.2	36.9	36.5	36.2	18.8	19.1	18.9
G14-6063	5	9	56.1	52.2	.	36.1	35.5	.	20.5	20.7	.
G15-1038R2	1	5	61.4	.	.	38.0	.	.	18.6	.	.
G15-1811R2	2	5	59.9	.	.	35.9	.	.	19.1	.	.
G15-3361R2	3	4	59.4	.	.	37.0	.	.	18.4	.	.
G15-3606R2	16	11	51.6	.	.	36.7	.	.	19.9	.	.
G15PR-340	6	9	55.5	53.7	.	36.1	36.0	.	20.2	20.5	.
N08-105	12	11	52.1	50.9	.	35.3	35.3	.	20.9	20.8	.
N09-209	7	10	54.5	52.7	.	34.1	33.8	.	20.7	21.0	.
N10-7412	9	11	53.5	.	.	35.6	.	.	19.9	.	.
N11-9228	17	13	48.0	44.6	.	35.8	35.4	.	20.5	20.6	.
N11-9298	15	9	51.7	48.8	.	34.7	34.7	.	21.1	21.2	.
N16-9211	13	11	52.0	.	.	38.5	.	.	17.9	.	.
Mean	.	.	54.5	.	.	35.9	.	.	19.8	.	.
LSD(0.05)	.	.	7.6	.	.	1.0	.	.	0.7	.	.
CV(%)	.	.	14.4	.	.	2.8	.	.	3.3	.	.

† Data not included in mean: 2019 - 2019 - Calhoun,GA and Tallassee,AL
2018 - Tallassee,AL
2017 - Stoneville, MS

‡ Protein percentage and oil percentage reported on a 13% moisture basis beginning in 2015.

TABLE 90 - GENERAL SUMMARY OF PERFORMANCE -Part 2
UNIFORM TEST VI 2019

STRAIN/ VARIETY	MEAL† PRO %	MAT INDEX	LOD	HT	SEED QUALITY	SEED SIZE	FL. COLOR	PUB. COLOR	POD COLOR
AG64X8 RR2X	48.5	0	2	30	2.6	13.7			
NC-Dunphy	47.5	-3	2	24	3.5	17.3	P	G	T
NC-Dilday	48.0	-3	2	27	3.0	18	P	G	Br
CZ6316LL	46.9	-3	2	30	2.4	13.9			
G13-2842R2	49.4	2	1	30	2.5	16.1	W	T	T
G14-6063	49.4	-4	2	29	2.3	17.6	W	G	T
G15-1038R2	50.7	2	2	32	2.8	14	P	T	T
G15-1811R2	48.3	2	2	32	2.8	13.7	P	T	T
G15-3361R2	49.3	3	2	31	2.0	12.4	P	T	T
G15-3606R2	49.8	-7	2	28	2.8	15.8	W	T	T
G15PR-340	49.2	2	2	30	2.6	13.3	P	T	T
N08-105	48.5	-6	2	28	2.9	17.2	P	T	
N09-209	46.7	-3	2	28	2.3	15.8	P	G	
N10-7412	48.4	-2	2	29	2.7	14.7	S	T	
N11-9228	48.9	-6	2	27	3.0	15.6	P	T	
N11-9298	47.7	0	2	31	2.9	16.2	P	G	
N16-9211	51.0	-1	2	25	2.3	11.3	W	G	
Mean	48.7	-2	2	29	2.7	15.1			
LSD(0.05)	1.1	4	0	3	0.8	1.1			
CV(%)	2.3	268	27	11	26.0	8.7			

† Estimated meal protein content was added to the annual report in 2018.

TABLE 91 - GENERAL SUMMARY OF PEST REACTION
UNIFORM TEST VI 2019

STRAIN/	*SCN Cyst Score (1-5 Scale)†*			*PRK*	*SRK*	*SC*	*SC*
VARIETY	*Race 2*	*Race 3*	*Race 5*	*GA*	*GA*	*RATING*	*SCORE*
AG64X8 RR2X	2	4	4	1.5	1.0	MR	2.0
NC-Dunphy	3	4	2	3.3	4.3	R	1.0
NC-Dilday	2	5	3	2.3	2.3	SS	3.0
CZ6316LL	2	.	.	3.0	4.8	R	1.0
G13-2842R2	3	3	3	1.0	1.0	MS	4.0
G14-6063	2	3	2	2.8	2.5	SS	3.0
G15-1038R2	3	4	4	1.0	1.0	MS	4.0
G15-1811R2	2	1	3	1.0	1.0	MR	2.0
G15-3361R2	3	1	3	1.0	1.0	R	1.0
G15-3606R2	2	1	2	1.0	1.0	R	1.0
G15PR-340	2	2	3	1.0	1.0	S	5.0
N08-105	3	3	3	2.8	4.5	R	1.0
N09-209	4	3	3	2.8	4.3	S	5.0
N10-7412	2	4	4	3.0	4.8	MR	2.0
N11-9228	2	3	3	2.8	5.0	S	5.0
N11-9298	3	3	4	3.0	3.5	S	5.0
N16-9211	5	4	4	1.0	1.0	SS	3.0
Mean	.	.	.	2.0	2.6		.
LSD (0.05):	.	.	.	0.4	0.3		.
CV (%)	.	.	.	27.0	16.0		.

†The race 2, 3, and 5 SCN populations used in these tests were typed as HG (Heterodera glycines) Type 1.2.5.7, HG Type 5.7, and HG Type 2.5.7, respectively.

TABLE 92 - SEED YIELD (BUSHELS PER ACRE)
UNIFORM TEST VI 2019 †

STRAIN/ VARIETY	*Bossier City, LA*	*Calhoun, GA*	*Clemson, SC*	*Florence, SC*	*Kinston, NC*	*Plains, GA*	*Tallassee, AL*	*Tifton, GA*	*Test Mean*
AG64X8 RR2X	53.8	35.8	55.3	27.9	54.7	59.9	44.7	73.1	54.1
NC-Dunphy	57.2	47.5	50.9	25.5	51.6	59.4	39.7	75.5	53.4
NC-Dilday	41.2	44.2	58.4	29.4	45.3	57.0	47.5	82.7	52.3
CZ6316LL	56.3	31.3	56.2	28.3	46.4	55.3	40.8	67.6	51.7
G13-2842R2	64.3	34.5	62.2	37.1	44.6	63.9	44.3	83.3	59.2
G14-6063	67.9	40.0	52.5	37.7	46.2	57.5	45.8	74.5	56.1
G15-1038R2	83.4	41.3	49.1	39.2	58.1	60.4	40.6	78.0	61.4
G15-1811R2	75.2	34.9	59.0	37.1	50.1	59.1	44.0	78.7	59.9
G15-3361R2	66.8	32.7	59.5	36.4	51.1	60.9	52.5	82.0	59.4
G15-3606R2	43.2	43.6	57.4	34.8	40.6	53.8	41.2	79.7	51.6
G15PR-340	72.5	32.5	53.3	30.6	39.4	60.3	33.1	77.0	55.5
N08-105	49.5	41.1	45.5	27.4	45.1	68.3	34.0	77.1	52.1
N09-209	63.0	40.4	57.3	25.4	45.4	57.9	39.9	77.7	54.5
N10-7412	62.6	35.9	50.3	29.5	48.8	54.5	37.9	75.0	53.5
N11-9228	42.1	35.9	47.6	36.9	46.0	51.6	32.0	63.8	48.0
N11-9298	37.4	49.5	45.9	39.5	50.4	54.9	39.1	81.8	51.7
N16-9211	56.8	24.3	55.4	39.5	44.3	43.8	50.6	72.3	52.0
Mean	58.4	38.0	53.9	33.1	47.5	57.6	41.6	76.5	54.5
LSD(0.05)	14.7	12.7	5.0	4.7	8.7	6.0	18.8	8.2	7.6
CV(%)	15.2	19.2	5.6	8.6	11.0	6.2	26.8	6.4	14.4

†Data not included in the mean: Calhoun,GA and Tallassee,AL.

TABLE 93 - RELATIVE MATURITY (DAYS EARLIER (-) OR LATER (+) THAN ENTRY 1)
UNIFORM GROUP VI 2019

STRAIN/ VARIETY	*Bossier City, LA*	*Calhoun, GA*	*Clemson, SC*	*Florence, SC*	*Kinston, NC*	*Tallassee, AL*	*Tifton, GA*	*Test Mean*
AG64X8 RR2X	10/17	10/1	10/20	10/18	10/29	10/19	10/7	10/16
NC-Dunphy	0	-7	1	-12	1	-1	-3	-3
NC-Dilday	-2	-7	2	-10	3	-4	-4	-3
CZ6316LL	-3	-6	-1	-7	0	2	-4	-3
G13-2842R2	1	-2	0	3	1	9	1	2
G14-6063	-6	-6	0	-7	-1	-5	-5	-4
G15-1038R2	1	8	1	1	2	3	1	2
G15-1811R2	1	-1	-2	3	0	3	8	2
G15-3361R2	3	6	-1	1	1	4	8	3
G15-3606R2	-6	-4	-2	-10	-2	-13	-13	-7
G15PR-340	1	-4	-1	4	-1	7	8	2
N08-105	-4	-7	-2	-8	0	-15	-6	-6
N09-209	-4	-7	2	-7	3	-4	-6	-3
N10-7412	1	-2	2	1	-1	-8	-7	-2
N11-9228	-5	-5	-2	-5	-3	-12	-8	-6
N11-9298	-5	-3	2	-1	4	3	-2	0
N16-9211	-2	-5	0	4	2	-2	-2	-1
Mean	-2	-3	0	-3	1	-2	-2	-2
LSD(0.05)	2	6	2	7	2	8		4
CV(%)	97	129	.	147	168	225	0	268

TABLE 94 - PLANT HEIGHT (INCHES)
UNIFORM GROUP VI 2019

STRAIN/ VARIETY	Bossier City, LA	Calhoun, GA	Clemson, SC	Florence, SC	Kinston, NC	Plains, GA	Tallassee, AL	Tifton, GA	Test Mean
AG64X8 RR2X	18	38	34	20	34	29	36	34	30
NC-Dunphy	15	29	28	12	26	21	32	31	24
NC-Dilday	16	31	33	16	22	25	33	35	27
CZ6316LL	23	33	36	20	34	27	38	35	31
G13-2842R2	17	32	38	20	34	27	40	35	30
G14-6063	18	32	33	18	30	29	35	35	29
G15-1038R2	24	33	34	20	31	33	40	37	32
G15-1811R2	26	29	38	22	36	32	41	36	32
G15-3361R2	20	34	34	20	34	29	40	40	31
G15-3606R2	17	31	37	15	30	25	28	39	28
G15PR-340	19	35	33	23	28	32	35	37	30
N08-105	21	32	36	17	30	29	28	35	28
N09-209	23	31	38	16	27	26	31	33	28
N10-7412	22	29	33	20	25	31	31	37	29
N11-9228	17	29	33	17	26	26	34	32	27
N11-9298	16	34	33	23	32	31	38	39	31
N16-9211	17	27	30	20	25	21	31	30	25
Mean	19	32	34	19	30	28	35	35	29
LSD(0.05)	5	6	3	3	.	5	6	2	3
CV(%)	15	10	6	9	.	10	10	4	11

TABLE 95 - PLANT LODGING (1-5)
UNIFORM GROUP VI 2019

STRAIN/ VARIETY	Bossier City, LA	Calhoun, GA	Clemson, SC	Florence, SC	Kinston, NC	Plains, GA	Tallassee, AL	Tifton, GA	Test Mean
AG64X8 RR2X	1.0	1.0	4.0	1.0	2.5	1.0	.	2.0	1.8
NC-Dunphy	1.0	1.0	3.3	1.0	2.2	1.0	.	2.0	1.7
NC-Dilday	1.0	1.0	4.0	1.0	2.5	1.3	.	2.7	1.9
CZ6316LL	1.0	2.0	3.3	1.0	2.2	1.3	.	2.0	1.8
G13-2842R2	1.0	1.0	2.0	1.0	2.0	1.0	.	2.0	1.4
G14-6063	1.0	1.3	2.3	1.0	2.5	1.0	.	2.3	1.6
G15-1038R2	1.0	1.0	3.3	1.0	2.5	1.0	.	3.3	1.9
G15-1811R2	1.0	2.7	3.0	1.0	2.2	1.7	.	2.0	1.9
G15-3361R2	1.0	1.0	3.0	1.0	2.2	1.0	.	2.0	1.6
G15-3606R2	1.0	1.3	2.3	1.0	2.0	1.0	.	2.0	1.5
G15PR-340	1.0	1.3	3.3	1.0	2.5	1.0	.	2.0	1.7
N08-105	1.0	2.0	3.3	1.0	2.5	1.3	.	4.7	2.3
N09-209	1.0	1.0	3.7	1.0	2.0	1.0	.	2.3	1.7
N10-7412	1.0	1.0	3.7	1.0	2.2	1.3	.	3.7	2.0
N11-9228	1.0	1.3	3.7	1.0	2.7	1.0	.	2.7	1.9
N11-9298	1.0	1.0	3.7	1.0	2.2	1.0	.	2.0	1.7
N16-9211	1.0	1.3	3.3	1.0	2.2	1.0	.	2.0	1.7
Mean	1.0	1.3	3.3	1.0	2.3	1.1	.	2.5	1.8
LSD(0.05)	.	0.7	0.7	.	0.5	0.5	.	0.7	0.4
CV(%)	0.0	32.0	13.6	0.0	10.1	28.0	.	16.8	26.9

TABLE 96 - SEED QUALITY (1-5)
UNIFORM GROUP VI 2019

STRAIN/ VARIETY	Bossier City, LA	Calhoun, GA	Clemson, SC	Florence, SC	Kinston, NC	Plains, GA	Tallassee, AL	Tifton, GA	Test Mean
AG64X8 RR2X	1.0	3.2	.	.	.	2.0	.	4.0	2.6
NC-Dunphy	2.0	3.2	.	.	.	3.7	.	5.0	3.5
NC-Dilday	1.0	2.3	.	.	.	4.0	.	4.8	3.0
CZ6316LL	1.0	2.5	.	.	.	2.7	.	3.3	2.4
G13-2842R2	1.0	3.2	.	.	.	2.0	.	3.7	2.5
G14-6063	1.0	2.3	.	.	.	3.0	.	3.0	2.3
G15-1038R2	1.0	3.8	.	.	.	2.0	.	4.2	2.8
G15-1811R2	1.0	3.5	.	.	.	2.0	.	4.5	2.8
G15-3361R2	1.0	3.0	.	.	.	1.7	.	2.5	2.0
G15-3606R2	1.3	2.7	.	.	.	3.7	.	3.3	2.8
G15PR-340	1.0	2.7	.	.	.	2.0	.	4.8	2.6
N08-105	1.0	3.0	.	.	.	4.0	.	3.5	2.9
N09-209	1.0	2.0	.	.	.	2.5	.	3.8	2.3
N10-7412	1.0	2.5	.	.	.	3.0	.	4.3	2.7
N11-9228	2.0	2.8	.	.	.	3.3	.	3.7	3.0
N11-9298	1.3	2.7	.	.	.	3.7	.	4.0	2.9
N16-9211	1.0	2.3	.	.	.	2.3	.	3.3	2.3
Mean	1.2	2.8	.	.	.	2.8	.	3.9	2.7
LSD(0.05)	0.3	0.8	.	.	.	0.8	.	1.2	0.8
CV(%)	17.1	16.4	.	.	.	15.4	.	19.1	26.2

TABLE 97 - SEED SIZE (GRAMS PER 100 SEED)
UNIFORM GROUP VI 2019

STRAIN/ VARIETY	*Bossier City, LA*	*Calhoun, GA*	*Clemson, SC*	*Florence, SC*	*Kinston, NC*	*Plains, GA*	*Tallassee, AL*	*Tifton, GA*	*Test Mean*
AG64X8 RR2X	12.9	9.9	.	.	15.2	13.5	14.1	16.1	13.7
NC-Dunphy	18.0	14.2	.	.	18.6	15.9	18.0	19.3	17.3
NC-Dilday	19.1	13.8	.	.	20.6	17.4	17.4	20.9	18.0
CZ6316LL	14.7	10.4	.	.	14.5	12.9	15.2	15.6	13.9
G13-2842R2	16.5	12.1	.	.	17.2	15.0	17.5	18.1	16.1
G14-6063	19.8	12.2	.	.	16.9	17.2	17.5	21.9	17.6
G15-1038R2	14.0	11.7	.	.	16.4	13.6	14.2	14.6	14.0
G15-1811R2	15.0	10.4	.	.	14.8	12.8	14.1	15.8	13.7
G15-3361R2	13.7	8.8	.	.	14.4	12.1	12.2	14.1	12.4
G15-3606R2	16.6	12.3	.	.	17.1	14.4	15.8	18.6	15.8
G15PR-340	14.2	9.7	.	.	14.4	12.7	14.2	14.7	13.3
N08-105	19.4	12.7	.	.	19.8	16.4	17.1	19.9	17.2
N09-209	16.3	11.3	.	.	17.1	16.2	16.5	17.6	15.8
N10-7412	14.0	11.1	.	.	16.7	15.2	15.1	16.4	14.7
N11-9228	12.8	12.6	.	.	17.4	15.1	14.9	19.0	15.6
N11-9298	13.8	12.9	.	.	17.2	16.1	16.9	18.5	16.2
N16-9211	10.7	8.6	.	.	11.8	9.4	13.5	12.9	11.3
Mean	15.4	11.5	.	.	16.5	14.5	15.5	17.3	15.1
LSD(0.05)	.	1.1	.	.	.	1.3	3.8	1.4	1.1
CV(%)	.	5.9	.	.	.	4.9	14.1	4.7	8.7

TABLE 98 - OIL (%)†
UNIFORM GROUP VI 2019

STRAIN/ VARIETY	*Bossier City, LA*	*Calhoun, GA*	*Clemson, SC*	*Florence, SC*	*Kinston, NC*	*Plains, GA*	*Tallassee, AL*	*Tifton, GA*	*Test Mean*
AG64X8 RR2X	19.5	.	.	18.0	19.3	19.5	20.4	.	19.3
NC-Dunphy	19.5	.	.	20.3	19.8	20.4	20.5	.	20.1
NC-Dilday	19.9	.	.	21.3	20.1	20.9	20.6	.	20.6
CZ6316LL	20.6	.	.	20.5	20.1	21.0	20.7	.	20.6
G13-2842R2	19.4	.	.	17.7	18.7	19.3	18.7	.	18.8
G14-6063	19.9	.	.	20.3	21.3	20.6	20.6	.	20.6
G15-1038R2	18.6	.	.	17.7	18.2	18.9	19.8	.	18.6
G15-1811R2	19.8	.	.	17.1	19.3	19.7	19.7	.	19.1
G15-3361R2	18.3	.	.	17.3	18.4	19.3	18.8	.	18.4
G15-3606R2	19.1	.	.	19.7	20.1	20.8	20.0	.	19.9
G15PR-340	20.8	.	.	19.3	19.7	21.3	20.0	.	20.2
N08-105	20.5	.	.	20.9	20.7	21.3	21.1	.	20.9
N09-209	21.3	.	.	20.1	20.2	21.3	20.9	.	20.7
N10-7412	20.1	.	.	19.1	19.4	21.0	20.0	.	19.9
N11-9228	20.6	.	.	19.0	20.8	20.8	21.3	.	20.5
N11-9298	20.8	.	.	21.3	20.5	21.6	21.3	.	21.1
N16-9211	17.1	.	.	17.7	18.1	17.5	19.0	.	17.9
Mean	19.8	.	.	19.3	19.7	20.3	20.2	.	19.8
LSD(0.05)	0.4	.	.	0.9	0.6	0.8	0.9	.	0.7
CV(%)	1.2	.	.	2.9	1.8	2.2	2.7	.	3.3

†Oil percentage reported on a 13% moisture basis beginning in 2015.
Protein and oil data from all replicates of a trial were reported in 2019.

TABLE 99 - PROTEIN (%)†
UNIFORM GROUP VI 2019

STRAIN/ VARIETY	Bossier City, LA	Calhoun, GA	Clemson, SC	Florence, SC	Kinston, NC	Plains, GA	Tallassee, AL	Tifton, GA	Test Mean
AG64X8 RR2X	35.8	.	.	37.7	35.8	35.9	34.9	.	36.0
NC-Dunphy	35.3	.	.	35.1	34.3	35.5	34.5	.	34.9
NC-Dilday	36.9	.	.	34.4	33.7	35.2	35.4	.	35.1
CZ6316LL	34.2	.	.	34.2	34.1	34.1	34.9	.	34.3
G13-2842R2	36.5	.	.	37.7	36.9	36.1	37.4	.	36.9
G14-6063	36.9	.	.	37.3	33.9	36.6	35.9	.	36.1
G15-1038R2	38.4	.	.	38.8	38.5	37.5	36.6	.	38.0
G15-1811R2	35.6	.	.	37.9	35.3	35.4	35.5	.	36.0
G15-3361R2	36.8	.	.	38.4	36.8	36.2	36.8	.	37.0
G15-3606R2	37.3	.	.	36.9	35.0	37.4	36.7	.	36.7
G15PR-340	36.0	.	.	37.1	36.0	34.4	37.2	.	36.1
N08-105	36.3	.	.	35.8	35.0	35.0	34.6	.	35.3
N09-209	33.3	.	.	35.7	33.3	33.5	34.5	.	34.1
N10-7412	35.1	.	.	36.2	35.6	35.5	35.9	.	35.6
N11-9228	35.8	.	.	37.7	34.4	36.5	34.5	.	35.8
N11-9298	34.5	.	.	34.5	34.6	35.4	34.3	.	34.7
N16-9211	39.2	.	.	38.8	37.7	39.1	37.8	.	38.5
Mean	36.1	.	.	36.7	35.3	35.8	35.7	.	35.9
LSD(0.05)	1.0	.	.	1.5	1.1	1.1	1.5	.	1.0
CV(%)	1.6	.	.	2.4	1.9	1.6	2.4	.	2.8

†Protein percentage reported on a 13% moisture basis beginning in 2015.
Protein and oil data from all replicates of a trial were reported in 2019.

TABLE 100 - MEAL (%)†
UNIFORM GROUP VI 2019

STRAIN/ VARIETY	*Bossier City, LA*	*Calhoun, GA*	*Clemson, SC*	*Florence, SC*	*Kinston, NC*	*Plains, GA*	*Tallassee, AL*	*Tifton, GA*	*Test Mean*
AG64X8 RR2X	48.3	.	.	50.0	48.3	48.5	47.6	.	48.5
NC-Dunphy	47.6	.	.	47.9	46.5	48.5	47.1	.	47.5
NC-Dilday	50.1	.	.	47.5	45.8	48.3	48.4	.	48.0
CZ6316LL	46.8	.	.	46.8	46.4	46.9	47.9	.	46.9
G13-2842R2	49.2	.	.	49.8	49.3	48.7	50.0	.	49.4
G14-6063	50.1	.	.	50.9	46.8	50.1	49.2	.	49.4
G15-1038R2	51.2	.	.	51.3	51.1	50.3	49.6	.	50.7
G15-1811R2	48.2	.	.	49.7	47.6	47.9	48.0	.	48.3
G15-3361R2	48.9	.	.	50.5	48.9	48.7	49.3	.	49.3
G15-3606R2	50.2	.	.	49.9	47.6	51.4	49.9	.	49.8
G15PR-340	49.4	.	.	50.0	48.7	47.5	50.6	.	49.2
N08-105	49.6	.	.	49.2	47.9	48.3	47.7	.	48.5
N09-209	46.0	.	.	48.5	45.3	46.2	47.5	.	46.7
N10-7412	47.7	.	.	48.6	48.0	48.8	48.7	.	48.4
N11-9228	49.0	.	.	50.6	47.2	50.1	47.7	.	48.9
N11-9298	47.4	.	.	47.6	47.3	49.1	47.4	.	47.7
N16-9211	51.4	.	.	51.3	50.0	51.5	50.7	.	51.0
Mean	48.9	.	.	49.4	47.8	48.9	48.7	.	48.7
LSD(0.05)	1.3	.	.	1.5	1.2	1.5	1.6	.	1.1
CV(%)	1.6	.	.	1.9	1.5	1.7	1.9	.	2.3

†Meal percentage reported on a 13% moisture basis beginning in 2018.
Protein and oil data from all replicates of a trial were reported in 2019.

SUMMARY OF SEED FATTY ACIDS (%)
UNIFORM TEST VI 2019 †

STRAIN/ VARIETY	*Palmitic Acid*	*Stearic Acid*	*Oleic Acid*	*Linoleic Acid*	*Linolenic Acid*
AG64X8 RR2X	12.0	4.1	22.0	55.0	6.5
NC-Dunphy	13.0	3.5	24.0	54.0	6.4
NC-Dilday	12.0	3.6	22.0	56.0	6.2
G15PR-340	9.0	3.7	63.0	21.0	3.5
Mean	11.0	3.7	33.0	46.0	5.7
LSD(0.05)	1.1	0.5	11.0	9.7	0.8
CV(%)	5.8	8.1	21.0	13.0	8.4

†Fatty acid percentage in seed oil reported beginning in 2017.

SEED PALMITIC ACID (%)
UNIFORM GROUP VI 2019

STRAIN/ VARIETY	*Athens, GA(A)*	*Florence, SC*	*Kinston, NC*	*Tallassee, AL*	*Test Mean*
AG64X8 RR2X	12.8	12.3	12.7	12.1	12.5
NC-Dunphy	13.2	12.5	12.9	13.0	12.9
NC-Dilday	11.5	11.6	11.0	11.9	11.5
G15PR-340	10.5	9.2	8.7	7.5	9.0
Mean	12.0	11.4	11.3	11.1	11.5
LSD(0.05)	.	.	.	.	1.1
CV(%)	.	.	.	.	5.8

SEED STEARIC ACID (%)
UNIFORM GROUP VI 2019

STRAIN/ VARIETY	*Athens, GA(A)*	*Florence, SC*	*Kinston, NC*	*Tallassee, AL*	*Test Mean*
AG64X8 RR2X	3.8	4.6	4.1	3.9	4.1
NC-Dunphy	3.2	3.9	3.3	3.8	3.5
NC-Dilday	3.4	3.5	3.3	4.4	3.6
G15PR-340	3.6	3.7	3.4	4.0	3.7
Mean	3.5	3.9	3.5	4.0	3.7
LSD(0.05)	.	.	.	.	0.5
CV(%)	.	.	.	.	8.1

SEED OLEIC ACID (%)
UNIFORM GROUP VI 2019

STRAIN/ VARIETY	Athens, GA(A)	Florence, SC	Kinston, NC	Tallassee, AL	Test Mean
AG64X8 RR2X	19.3	23.2	20.2	24.5	21.8
NC-Dunphy	23.0	24.6	22.8	23.8	23.6
NC-Dilday	23.3	21.3	19.7	25.6	22.5
G15PR-340	45.6	62.9	61.1	82.0	62.9
Mean	27.8	33.0	31.0	39.0	32.7
LSD(0.05)	.	.	.	.	11.2
CV(%)	.	.	.	.	21.4

SEED LINOLEIC ACID (%)
UNIFORM GROUP VI 2019

STRAIN/ VARIETY	Athens, GA(A)	Florence, SC	Kinston, NC	Tallassee, AL	Test Mean
AG64X8 RR2X	56.8	53.7	56.1	53.6	55.1
NC-Dunphy	54.2	53.2	54.0	53.1	53.6
NC-Dilday	55.8	57.4	58.8	52.6	56.2
G15PR-340	35.8	20.7	23.1	4.1	20.9
Mean	50.7	46.3	48.0	40.9	46.4
LSD(0.05)	.	.	.	.	9.7
CV(%)	.	.	.	.	13.1

SEED LINOLENIC ACID (%)
UNIFORM GROUP VI 2019

STRAIN/ VARIETY	Athens, GA(A)	Florence, SC	Kinston, NC	Tallassee, AL	Test Mean
AG64X8 RR2X	7.2	6.1	6.8	6.0	6.5
NC-Dunphy	6.4	5.9	7.0	6.2	6.4
NC-Dilday	6.0	6.1	7.1	5.6	6.2
G15PR-340	4.5	3.6	3.7	2.3	3.5
Mean	6.0	5.4	6.2	5.0	5.7
LSD(0.05)	.	.	.	.	0.8
CV(%)	.	.	.	.	8.4

INTENTIONALLY BLANK

TABLE 101 - PARENTAGE OF ENTRIES
PRELIMINARY GROUP VI 2019

Ent	Strain/Variety	Parentage	Source	Fn	Trans-genic†	Special Traits‡
1	AG64X8 RR2X	Commercial check	Commercial		RR2	
2	NC-Dunphy	MD99-6226 x N97-9677	Carter		Conv	
3	NC-Dilday	N99-8137 x TN99-117	Carter		Conv	
4	CZ6316LL	Commercial check	Commercial		LL	
5	G16-4162R2	G06-3182RR x G10PR-86R2 (R2)	Zenglu Li	F5d	RR2	
6	G16-4674R2	G10PR-86R2 x G10PR-224R2	Zenglu Li	F5d	RR2	
7	G16-4995R2	G10PR-56444R2 x G11PR-407R2	Zenglu Li	F5d	RR2	
8	G16-5957R2	N05-7462 x G09PR-54457R2	Zenglu Li	F5d	RR2	
9	G16-8779	LG06-5920 x G00-3880	Zenglu Li	F4d	Conv	
10	G16LL-10015	G08-394 x [G00-3213(2) x A5547-127 Liberty]	Zenglu Li	F6d	LL	
11	G16LL-10106	G08-394 x [G00-3213(2) x A5547-127 Liberty]	Zenglu Li	F6d	LL	
12	N11-8787	N02-8492 (PG) x N03-7101 (PG)	Carter	F4	Conv	Diversity
13	N11-9092	N02-8492 (PG) x N03-7191 MG)	Carter	F4	Conv	Diversity
14	N16-8876	N02-7002 x NMS4-1-45	Carter	F4	Conv	Diversity/elevated protein
15	N16-8913	N7103 x NMS5-48-2-75	Carter	F4	Conv	Diversity/elevated protein
16	N16-8963	N7103 x NMS5-48-2-75	Carter	F4	Conv	Diversity/elevated protein
17	N16-8989	N7103 x NMS5-48-2-75	Carter	F4	Conv	Diversity/elevated protein
18	N16-9064	N7103 x NMS5-48-2-75	Carter	F4	Conv	Diversity/elevated protein
19	N16-10520	N7103 x NMS4-1-45	Carter	F4	Conv	Diversity/elevated protein
20	SC17-5529RR1	G08-4200RR x Osage	Fallen		RR1	
21	SC17-6518ERR1	TN05-5018 x SC06-676RR	Fallen		RR1	
22	SC17-6519RR1	TN05-5018 x SC06-676RR	Fallen		RR1	
23	SC18-8521RR2	S11-21092 x G10PR-224R2	Fallen		RR2	
24	SC18-8813RR1	SC07-1518RR x S11-21072	Fallen		RR1	
25	SC18-8815RR1	SC07-1518RR x S11-21072	Fallen		RR1	

†Conv= Conventional(non-transgenic),LL= Liberty Link®, RR1= Roundup Ready®, RR2= Roundup Ready 2 Yield®, and RRX= Roundup Ready 2 Xtend®

‡AA= modified amino acids, DNC= Do not cross with this, FLS= Frogeye leaf spot resistance, LJ= Long juvenile, LN= low linolenic acid, LP= low phytate, HO= high oleic acid, HOLN= high oleic acid/low linolenic acid, SCN= Soybean cyst nematode resistance, SR= Soybean rust resistance, and STS= sulfonylurea tolerant

TABLE 102 - GENERAL SUMMARY OF PERFORMANCE
PRELIMINARY TEST VI 2019

STRAIN/	*SEED*		*AVG.*	*MAT.*			*SCN Cyst Score (1-5)‡*			*SC*	*SC*
VARIETY	*YIELD†*	*RANK*	*RANK*	*INDEX*	*LOD*	*HT*	*Race 2*	*Race 3*	*Race 5*	*RATING*	*SCORE*
AG64X8 RR2X	52.3	3	5	0	2.1	36	4	4	5	MR	2
NC-Dunphy	45.7	18	14	1	2.1	28	2	3	5	R	1
NC-Dilday	52.3	4	5	3	2.3	33	3	3	5	SS	3
CZ6316LL	44.8	21	16	0	2.2	34	4	.	3	R	1
G16-4162R2	49.4	7	9	3	2.2	38	3	2	3	S	5
G16-4674R2	47.1	14	15	6	2.4	38	2	1	3	R	1
G16-4995R2	53.9	2	3	7	2.3	38	2	3	5	MS	4
G16-5957R2	47.5	11	14	1	2.4	37	1	2	2	R	1
G16-8779	47.7	10	13	1	2.3	31	3	1	4	R	1
G16LL-10015	55.9	1	5	2	2.4	37	2	1	4	R	1
G16LL-10106	51.9	5	8	4	2.3	38	3	2	4	S	5
N11-8787	44.8	20	19	2	2.2	36	3	3	5	MS	4
N11-9092	39.8	25	20	1	2.1	33	2	3	5	MR	2
N16-8876	47.0	15	15	2	2.3	34	1	3	2	S	5
N16-8913	47.2	13	15	2	2.5	37	1	3	4	SS	3
N16-8963	47.3	12	14	0	2.4	34	2	4	5	MS	4
N16-8989	44.6	22	18	0	2.1	32	2	4	5	S	5
N16-9064	46.8	16	15	2	2.2	32	3	4	5	S	5
N16-10520	45.2	19	17	2	2.4	33	2	4	4	R	1
SC17-5529RR1	48.0	9	14	4	2.1	37	2	2	3	R	1
SC17-6518ERR1	50.6	6	9	1	2.2	36	2	2	2	R	1
SC17-6519RR1	46.6	17	12	5	2.6	39	2	2	4	R	1
SC18-8521RR2	48.8	8	11	5	2.4	37	5	3	4	R	1
SC18-8813RR1	41.5	23	21	7	2.8	39	5	3	4	R	1
SC18-8815RR1	40.5	24	21	7	2.6	39	5	2	5	R	1
Mean	47.5	.	.	3	2.3	35	.	.	.		.
LSD(0.05)	6.5	.	.	3	0.4	5	.	.	.		.
CV(%)	11.7	.	.	100	15.8	12	.	.	.		.

†Data not included in the mean: Tallassee,AL.

‡The race 2, 3, and 5 SCN populations used in these tests were typed as HG (Heterodera glycines) Type 1.2.5.7, HG Type 5.7, and HG Type 2.5.7, respectively.

TABLE 103 - GENERAL SUMMARY OF PERFORMANCE (continued)
PRELIMINARY TEST VI 2019

STRAIN/ VARIETY	SEED QUALITY	SEED SIZE	PROTEIN§ %	OIL§ %	MEAL PRO%	FL COLOR	PUB. COLOR	POD COLOR
AG64X8 RR2X	1.5	14.3	35.9	19.5	48.5			
NC-Dunphy	2.7	17.1	35.0	19.9	47.4	P	G	T
NC-Dilday	2.9	17.7	35.4	20.0	48.1	P	G	Br
CZ6316LL	2.3	13.5	34.2	20.6	46.8			
G16-4162R2	1.7	15.4	36.8	19.2	49.5	P	T	T
G16-4674R2	1.5	15.4	36.5	18.8	48.8	P	T	T
G16-4995R2	1.9	14.7	38.8	18.0	51.4	W	T	T
G16-5957R2	1.5	13.8	34.9	20.1	47.5	P	T	T
G16-8779	1.9	16.8	35.2	19.2	47.4	P	T	Br
G16LL-10015	1.3	16.2	35.6	20.5	48.7	W	T	T
G16LL-10106	1.9	15.6	35.4	20.3	48.3	W	T	T
N11-8787	2.5	15.5	36.1	19.6	48.8	P	G	
N11-9092	2.7	16.9	36.1	19.4	48.7	P	G	
N16-8876	2.5	14.5	37.3	18.9	50.0	P	G	
N16-8913	2.3	13.7	37.6	18.1	49.9	W	T	
N16-8963	1.9	13.1	37.2	19.3	50.1	W	G	
N16-8989	2.4	12.6	37.7	18.6	50.4	W	G	
N16-9064	1.9	15.8	37.3	17.9	49.4	P	G	
N16-10520	1.3	9.9	37.5	18.1	49.8	W	G	
SC17-5529RR1	1.7	14.0	37.5	18.9	50.3	P	T	
SC17-6518ERR1	1.7	11.9	36.3	18.7	48.5	W	G	
SC17-6519RR1	1.4	12.9	36.6	19.0	49.1	W	T	
SC18-8521RR2	2.1	12.7	36.1	18.9	48.3	W	T	
SC18-8813RR1	1.7	13.4	36.7	19.5	49.5	P	T	
SC18-8815RR1	1.5	12.9	36.7	19.1	49.3	P	T	
Mean	1.9	14.4	36.4	19.2	49.0			
LSD(0.05)	1.2	1.3	1.2	0.7	1.4			
CV(%)	32.1	8.5	2.3	2.4	1.9			

§Protein percentage and oil percentage are reported on a 13% moisture basis beginning in 2015.

TABLE 104 - SEED YIELD (BUSHELS PER ACRE)
PRELIMINARY GROUP VI 2019 †

STRAIN/ VARIETY	*Clemson, SC*	*Kinston, NC*	*Plains, GA*	*Plymouth, NC*	*Tallassee, AL*	*Test Mean*
AG64X8 RR2X	50.6	52.4	61.2	45.1	46.7	52.3
NC-Dunphy	37.8	40.2	59.0	45.5	39.2	45.7
NC-Dilday	52.6	51.7	56.1	48.8	42.0	52.3
CZ6316LL	38.2	45.6	56.2	39.1	41.5	44.8
G16-4162R2	44.6	48.3	61.0	43.6	35.6	49.4
G16-4674R2	48.4	41.7	53.9	44.3	34.5	47.1
G16-4995R2	58.6	48.1	62.7	46.4	36.5	53.9
G16-5957R2	49.4	39.8	59.3	41.4	38.8	47.5
G16-8779	45.7	45.4	52.8	47.0	46.4	47.7
G16LL-10015	69.2	46.9	65.3	42.3	39.3	55.9
G16LL-10106	60.4	46.9	63.1	35.8	31.1	51.9
N11-8787	44.9	42.1	54.4	37.5	36.1	44.8
N11-9092	30.2	44.2	43.7	40.9	39.6	39.8
N16-8876	46.4	43.1	58.1	40.4	26.4	47.0
N16-8913	45.8	42.6	58.0	42.3	37.2	47.2
N16-8963	50.4	44.4	53.5	40.9	40.0	47.3
N16-8989	48.0	43.1	48.4	38.8	45.2	44.6
N16-9064	50.5	39.3	55.9	41.6	38.7	46.8
N16-10520	46.8	40.9	50.3	42.6	43.8	45.2
SC17-5529RR1	49.1	44.1	58.5	40.3	47.4	48.0
SC17-6518ERR1	57.3	45.5	54.2	45.5	38.0	50.6
SC17-6519RR1	39.8	46.2	54.7	46.3	41.0	46.6
SC18-8521RR2	49.6	46.3	58.2	40.8	43.7	48.8
SC18-8813RR1	37.5	44.7	47.6	36.2	37.5	41.5
SC18-8815RR1	37.3	44.9	45.5	34.3	36.0	40.5
Mean	47.6	44.7	55.7	41.9	39.3	47.5
LSD(0.05)	4.3	7.1	8.1	5.3	15.8	6.5
CV(%)	5.4	9.6	8.8	7.2	18.7	11.7

†Data not included in the mean: Tallassee,AL.

TABLE 105 - RELATIVE MATURITY (DAYS EARLIER (-) OR LATER (+) THAN ENTRY 1)
PRELIMINARY GROUP VI 2019

STRAIN/ VARIETY	*Clemson, SC*	*Kinston, NC*	*Plains, GA*	*Plymouth, NC*	*Tallassee, AL*	*Test Mean*
AG64X8 RR2X	10/20	10/28	.	10/26	10/24	10/25
NC-Dunphy	1	-1	.	1	3	1
NC-Dilday	3	7	.	2	2	3
CZ6316LL	1	-2	.	0	3	0
G16-4162R2	2	7	.	0	4	3
G16-4674R2	4	6	.	8	9	6
G16-4995R2	5	10	.	8	4	7
G16-5957R2	2	0	.	2	0	1
G16-8779	2	-1	.	2	3	1
G16LL-10015	3	0	.	1	6	2
G16LL-10106	1	4	.	5	7	4
N11-8787	2	1	.	1	6	2
N11-9092	0	0	.	-1	5	1
N16-8876	2	3	.	1	4	2
N16-8913	-1	7	.	1	4	2
N16-8963	1	-2	.	-3	4	0
N16-8989	1	-1	.	0	2	0
N16-9064	1	3	.	1	3	2
N16-10520	2	-1	.	0	5	2
SC17-5529RR1	3	7	.	2	3	4
SC17-6518ERR1	2	0	.	1	1	1
SC17-6519RR1	5	6	.	5	5	5
SC18-8521RR2	5	4	.	9	5	5
SC18-8813RR1	5	9	.	10	4	7
SC18-8815RR1	4	6	.	9	10	7
Mean	2	3	.	3	4	3
LSD(0.05)	2	8	.	2	9	3
CV(%)	48	145	.	31	106	100

TABLE 106 - PLANT HEIGHT (INCHES)
PRELIMINARY GROUP VI 2019

STRAIN/ VARIETY	Clemson, SC	Kinston, NC	Plains, GA	Plymouth, NC	Tallassee, AL	Test Mean
AG64X8 RR2X	37	41	26	43	35	36
NC-Dunphy	30	27	19	28	31	28
NC-Dilday	34	37	23	38	33	33
CZ6316LL	37	37	24	36	36	34
G16-4162R2	35	46	32	48	35	38
G16-4674R2	34	41	34	40	38	38
G16-4995R2	35	42	34	46	37	38
G16-5957R2	38	37	32	35	37	37
G16-8779	34	36	19	36	31	31
G16LL-10015	36	41	30	40	36	37
G16LL-10106	35	46	33	45	32	38
N11-8787	36	38	26	38	41	36
N11-9092	31	39	23	40	34	33
N16-8876	33	38	25	39	33	34
N16-8913	36	43	29	45	34	37
N16-8963	37	32	29	33	32	34
N16-8989	33	36	22		33	32
N16-9064	35	34	24	36	32	32
N16-10520	33	37	24	37	34	33
SC17-5529RR1	36	40	29	44	37	37
SC17-6518ERR1	39	42	26	43	34	36
SC17-6519RR1	37	45	34		35	39
SC18-8521RR2	35	40	34	42	32	37
SC18-8813RR1	37	45	40	35	35	39
SC18-8815RR1	39	33	43	34	36	39
Mean	35	39	29	39	35	35
LSD(0.05)	2	.	7	.	9	5
CV(%)	4	.	16	.	13	12

TABLE 94 - PLANT LODGING (1-5)
PRELIMINARY GROUP VI 2019

STRAIN/ VARIETY	Clemson, SC	Kinston, NC	Plains, GA	Plymouth, NC	Tallassee, AL	Test Mean
AG64X8 RR2X	3.0	2.0	1.0	2.5	.	2.1
NC-Dunphy	3.0	2.0	1.0	2.2	.	2.1
NC-Dilday	3.7	2.3	1.3	2.0	.	2
CZ6316LL	3.0	2.0	1.3	2.5	.	2.2
G16-4162R2	3.0	2.0	1.0	2.7	.	2.2
G16-4674R2	3.7	2.3	1.0	2.5	.	2.4
G16-4995R2	3.7	2.0	1.0	2.5	.	2.3
G16-5957R2	4.0	2.0	1.0	2.7	.	2.4
G16-8779	3.3	1.8	1.0	3.0	.	2.3
G16LL-10015	4.0	2.3	1.0	2.3	.	2.4
G16LL-10106	3.0	2.3	1.3	2.5	.	2.3
N11-8787	3.7	2.0	1.0	2.0	.	2.2
N11-9092	3.3	2.0	1.0	2.2	.	2.1
N16-8876	3.3	2.5	1.0	2.5	.	2.3
N16-8913	4.0	2.3	1.0	2.8	.	2.5
N16-8963	3.7	2.0	1.3	2.5	.	2.4
N16-8989	3.3	2.0	1.0	2.0	.	2.1
N16-9064	3.7	2.0	1.0	2.0	.	2.2
N16-10520	4.0	2.3	1.0	2.5	.	2.4
SC17-5529RR1	3.0	2.0	1.0	2.5	.	2.1
SC17-6518ERR1	3.0	2.0	1.0	2.7	.	2.2
SC17-6519RR1	4.0	2.3	1.7	2.5	.	2.6
SC18-8521RR2	3.3	2.0	1.7	2.5	.	2.4
SC18-8813RR1	4.0	2.5	2.0	2.7	.	2.8
SC18-8815RR1	3.3	2.5	2.0	2.5	.	2.6
Mean	3.5	2.1	1.2	2.5	.	2.3
LSD(0.05)	0.6	0.4	0.5	0.4	.	0.4
CV(%)	11.3	8.7	23.8	8.5	.	15.8

TABLE 108 - SEED QUALITY (1-5)
PRELIMINARY GROUP VI 2019

STRAIN/ VARIETY	Clemson, SC	Kinston, NC	Plains, GA	Plymouth, NC	Tallassee, AL	Test Mean
AG64X8 RR2X	.	.	2.0	1	.	1.5
NC-Dunphy	.	.	3.7	2	.	2.7
NC-Dilday	.	.	4.0	2	.	3
CZ6316LL	.	.	3.0	2	.	2.3
G16-4162R2	.	.	2.3	1	.	1.7
G16-4674R2	.	.	1.7	2	.	1.5
G16-4995R2	.	.	2.3	2	.	1.9
G16-5957R2	.	.	2.0	1	.	1.5
G16-8779	.	.	2.7	1	.	1.9
G16LL-10015	.	.	1.7	1	.	1.3
G16LL-10106	.	.	2.3	2	.	1.9
N11-8787	.	.	3.3	2	.	2.5
N11-9092	.	.	4.0	1	.	2.7
N16-8876	.	.	3.7	1	.	2.5
N16-8913	.	.	3.0	2	.	2.3
N16-8963	.	.	2.7	1	.	1.9
N16-8989	.	.	3.0		.	2.4
N16-9064	.	.	2.3	2	.	1.9
N16-10520	.	.	1.7	1	.	1.3
SC17-5529RR1	.	.	2.0	2	.	1.7
SC17-6518ERR1	.	.	2.0	2	.	1.7
SC17-6519RR1	.	.	2.0		.	1.4
SC18-8521RR2	.	.	2.3	2	.	2.1
SC18-8813RR1	.	.	2.3	1	.	1.7
SC18-8815RR1	.	.	1.7	2	.	1.5
Mean	.	.	2.5	1	.	1.9
LSD(0.05)	.	.	0.8		.	1.2
CV(%)	.	.	18.3		.	32.1

TABLE 109 - SEED SIZE (GRAMS PER 100 SEED)
PRELIMINARY GROUP VI 2019

STRAIN/ VARIETY	*Clemson, SC*	*Kinston, NC*	*Plains, GA*	*Plymouth, NC*	*Tallassee, AL*	*Test Mean*
AG64X8 RR2X	.	15.5	13.6	14	14	14.3
NC-Dunphy	.	18.7	15.7	18	17	17.1
NC-Dilday	.	19.8	17.0	18	16	17.7
CZ6316LL	.	14.6	12.0	13	15	13.5
G16-4162R2	.	17.0	13.2	15	17	15.4
G16-4674R2	.	16.6	14.1	15	16	15.4
G16-4995R2	.	16.7	12.4	15	16	14.7
G16-5957R2	.	14.7	12.7	14	14	13.8
G16-8779	.	18.6	15.0	16	18	16.8
G16LL-10015	.	17.2	14.6	16	18	16.2
G16LL-10106	.	16.9	13.7	15	16	15.6
N11-8787	.	16.7	13.6	15	17	15.5
N11-9092	.	18.7	14.6	17	18	16.9
N16-8876	.	16.6	12.9	14	15	14.5
N16-8913	.	16.6	13.0	13	13	13.7
N16-8963	.	13.8	11.7	12	15	13.1
N16-8989	.	14.0	11.5	11	14	12.6
N16-9064	.	18.5	14.3	15	16	15.8
N16-10520	.	10.1	9.0	8	11	9.9
SC17-5529RR1	.	15.1	13.2	13	14	14.0
SC17-6518ERR1	.	13.5	9.7	12	13	11.9
SC17-6519RR1	.	13.4	11.4	11	15	12.9
SC18-8521RR2	.	14.4	12.1	13	11	12.7
SC18-8813RR1	.	15.1	12.2	13	13	13.4
SC18-8815RR1	.	13.6	11.7	13	13	12.9
Mean	.	15.9	13.0	14	15	14.4
LSD(0.05)	.	.	1.3	1	5	1.3
CV(%)	.	.	6.0	3	15	8.5

TABLE 110 - OIL (%)†
PRELIMINARY GROUP VI 2019

STRAIN/ VARIETY	Clemson, SC	Kinston, NC	Plains, GA	Plymouth, NC	Tallassee, AL	Test Mean
AG64X8 RR2X	,	19.7	19.5	19.2	.	19.5
NC-Dunphy	,	20.0	20.4	19.6	19.6	19.9
NC-Dilday	,	20.0	20.9	20.0	19.1	20.0
CZ6316LL	,	20.4	21.3	20.0	20.7	20.6
G16-4162R2	,	18.7	20.0	18.8	19.4	19.2
G16-4674R2	,	18.5	19.1	17.7	19.8	18.8
G16-4995R2	,	17.9	18.3	17.3	18.6	18.0
G16-5957R2	,	20.3	20.7	19.4	20.2	20.1
G16-8779	,	19.0	20.0	19.0	18.8	19.2
G16LL-10015	,	20.2	21.2	20.1	20.6	20.5
G16LL-10106	,	20.1	21.2	19.5	20.2	20.3
N11-8787	,	19.4	20.3	19.4	19.3	19.6
N11-9092	,	19.2	19.3	19.0	20.1	19.4
N16-8876	,	18.2	19.4	18.4	19.7	18.9
N16-8913	,	18.0	18.6	18.5	17.6	18.1
N16-8963	,	18.9	20.0	19.0	19.3	19.3
N16-8989	,	18.6	19.4	.	18.1	18.6
N16-9064	,	16.9	18.2	17.4	19.0	17.9
N16-10520	,	18.0	18.0	17.9	18.7	18.1
SC17-5529RR1	,	19.2	19.5	18.6	18.5	18.9
SC17-6518ERR1	,	18.4	19.5	17.4	19.4	18.7
SC17-6519RR1	,	18.9	19.5	.	19.0	19.0
SC18-8521RR2	,	19.3	19.6	18.0	18.7	18.9
SC18-8813RR1	,	19.8	19.5	18.6	20.1	19.5
SC18-8815RR1	,	18.9	19.2	19.0	19.5	19.1
Mean	,	19.1	19.7	18.8	19.3	19.2
LSD(0.05)	,	,	,	,	,	0.7
CV(%)	,	,	,	,	,	2.4

†Oil percentage is reported on a 13% moisture basis beginning in 2015.

TABLE 111 - PROTEIN (%)†
PRELIMINARY GROUP VI 2019

STRAIN/ VARIETY	Clemson, SC	Kinston, NC	Plains, GA	Plymouth, NC	Tallassee, AL	Test Mean
AG64X8 RR2X	,	36.4	35.5	35.5	.	35.9
NC-Dunphy	,	34.1	35.1	34.8	35.9	35.0
NC-Dilday	,	34.7	35.1	34.2	37.7	35.4
CZ6316LL	,	33.6	34.0	34.0	35.3	34.2
G16-4162R2	,	36.6	36.4	37.2	37.0	36.8
G16-4674R2	,	36.7	36.5	37.3	35.6	36.5
G16-4995R2	,	37.9	39.2	39.1	39.1	38.8
G16-5957R2	,	34.2	34.8	35.0	35.6	34.9
G16-8779	,	33.8	35.9	34.6	36.5	35.2
G16LL-10015	,	35.6	35.8	35.1	36.1	35.6
G16LL-10106	,	35.3	34.9	35.8	35.7	35.4
N11-8787	,	35.7	35.4	36.2	37.3	36.1
N11-9092	,	36.6	37.2	34.8	36.0	36.1
N16-8876	,	38.2	37.9	37.2	36.0	37.3
N16-8913	,	37.3	37.8	35.7	39.4	37.6
N16-8963	,	36.6	37.6	36.0	38.5	37.2
N16-8989	,	37.4	38.0	.	38.1	37.7
N16-9064	,	38.2	37.0	37.2	37.0	37.3
N16-10520	,	37.4	38.2	37.2	37.2	37.5
SC17-5529RR1	,	36.5	38.0	36.9	38.6	37.5
SC17-6518ERR1	,	36.4	35.5	37.1	36.2	36.3
SC17-6519RR1	,	35.6	35.8	.	38.8	36.6
SC18-8521RR2	,	35.4	35.0	36.1	37.8	36.1
SC18-8813RR1	,	35.3	37.8	36.9	36.7	36.7
SC18-8815RR1	,	37.1	37.3	35.8	36.6	36.7
Mean	,	36.1	36.5	36.1	37.0	36.4
LSD(0.05)	,	,	,	,	,	1.2
CV(%)	,	,	,	,	,	2.3

†Protein percentage is reported on a 13% moisture basis beginning in 2015.

TABLE 112 - ESTIMATED MEAL PROTEIN (%)†
PRELIMINARY GROUP VI 2019

STRAIN/ VARIETY	Clemson, SC	Kinston, NC	Plains, GA	Plymouth, NC	Tallassee, AL	Test Mean
AG64X8 RR2X	,	49.2	47.9	47.7	.	48.5
NC-Dunphy	,	46.3	47.9	47.0	48.6	47.4
NC-Dilday	,	47.1	48.2	46.5	50.7	48.1
CZ6316LL	,	45.8	47.0	46.2	48.4	46.8
G16-4162R2	,	49.0	49.4	49.8	49.9	49.5
G16-4674R2	,	48.9	49.0	49.2	48.3	48.8
G16-4995R2	,	50.1	52.2	51.4	52.2	51.4
G16-5957R2	,	46.6	47.7	47.2	48.5	47.5
G16-8779	,	45.4	48.8	46.5	48.9	47.4
G16LL-10015	,	48.4	49.3	47.7	49.4	48.7
G16LL-10106	,	48.0	48.1	48.4	48.6	48.3
N11-8787	,	48.1	48.2	48.8	50.2	48.8
N11-9092	,	49.2	50.1	46.7	49.0	48.7
N16-8876	,	50.7	51.0	49.6	48.7	50.0
N16-8913	,	49.4	50.5	47.6	52.0	49.9
N16-8963	,	49.0	51.1	48.4	51.8	50.1
N16-8989	,	49.9	51.2	.	50.6	50.4
N16-9064	,	50.0	49.1	49.0	49.6	49.4
N16-10520	,	49.6	50.6	49.2	49.7	49.8
SC17-5529RR1	,	49.1	51.2	49.3	51.5	50.3
SC17-6518ERR1	,	48.5	48.0	48.8	48.8	48.5
SC17-6519RR1	,	47.7	48.3	.	52.1	49.1
SC18-8521RR2	,	47.6	47.2	47.9	50.5	48.3
SC18-8813RR1	,	47.8	51.0	49.2	49.8	49.5
SC18-8815RR1	,	49.7	50.2	48.1	49.4	49.3
Mean	,	48.4	49.3	48.3	49.9	49.0
LSD(0.05)	,	,	,	,	,	1.4
CV(%)	,	,	,	,	,	1.9

†Estimated meal protein percentage is reported on a 13% moisture basis.

TABLE 113 - PARENTAGE OF ENTRIES
UNIFORM GROUP VII 2019

Ent	Strain/Variety	Parentage	Source	Fn	Trans-genic†	Special Traits‡
1	AGS-738RR	G99-4158 x P97M50	Commercial		RR1	
2	AG74X8 RR2X	Commercial check	Commercial		RRX	
3	N7003CN	Cook x Anand	Carter		Conv	
4	NC-Wilder	R97-1634 x N97-9693	Carter		Conv	
5	AGS 747LL	Commercial check	Commercial		LL	
6	G14-2622R2	R02-3065 x G00-3880(3)RR2Y	Zenglu Li	F6d	RR2	
7	G14-4364R2	N05-7462 x G00-3880(3)RR2Y	Zenglu Li	F6d	RR2	
8	G15-2017R2	R04-342 x G09PR-54457R2	Zenglu Li	F7d	RR2	
9	G15-2330R2	NCC04-619 x G09PR-54457R2	Zenglu Li	F7d	RR2	
10	G15-2379R2	NCC04-619 x G09PR-54457R2	Zenglu Li	F7d	RR2	
11	G15PRLL-989	NCC06-899 x [G00-3213(2) x A5547-127 Liberty]	Zenglu Li	F6d	LL	
12	N02-7834	Cook x Archer (I)	Carter	F4	Conv	Diversity/elevated protein
13	N10-764	N03-893 x G00-3213	Mian	F4	Conv	Meal
14	N10-792	N03-893 x G00-3213	Mian	F4	Conv	Meal
15	N11-8098	SC97-1821 x MN0302	Carter	F4	Conv	Diversity/elevated protein
16	N11-12528	NC-Roy x PI 603308B	Carter	F4	Conv	Diversity/elevated protein
17	N16-9134	N7103 x NMS5-48-2-75	Carter	F4	Conv	Diversity/elevated protein
18	N16-9198	N7103 x NMS5-48-2-75	Carter	F4	Conv	Diversity/elevated protein
19	N16-10425	N7103 x NMS4-1-45	Carter		Conv	Diversity/elevated protein
20	N16-10554	N7103 x NMS4-1-45	Carter		Conv	Diversity/elevated protein
21	N94-7441	NTCPR90-143 x PEARL	Carter	F4	Conv	
22	SC17-5517RR1	SC06-676RR x G04-1618RR	Fallen		RR1	
23	SC17-5537RR2	N07-14182 x G10PR-224R2	Fallen		RRX	

†Conv= Conventional(non-transgenic), LL= Liberty Link®, RR1= Roundup Ready®, and RR2=Roundup Ready 2 Yield® RRX= Roundup Ready 2 Xtend®

‡AA= modified amino acids, DNC= Do not cross with this, FLS= Frogeye leaf spot resistance, LJ= Long juvenile, LN= low linolenic acid, LP= low phytate, HO= high olelic acid, HOLN= high oleic acid/low linolenic acid, SCN= Soybean cyst nematode resistance, SR= Soybean rust resistance, and STS= sulfonylurea tolerant

TABLE 114 - GENERAL SUMMARY OF PERFORMANCE
UNIFORM TEST VII 2019

STRAIN/		*AVG.*	*YIELD†*			*PROTEIN‡*			*OIL‡*		
VARIETY	*RANK*	*RANK*	*2019*	*18-19*	*17-19*	*2019*	*18-19*	*17-19*	*2019*	*18-19*	*17-19*
AGS-738RR §	.	.	.	47.3	48.6	.	35.3	35.1	.	19.5	19.3
AG74X8 RR2X	3	7	52.9	52.3	.	35.6	35.8	.	19.4	19.4	.
N7003CN	14	12	49.0	49.9	50.2	35.3	35.2	35.3	19.4	19.8	19.5
NC-Wilder	4	7	52.8	52.4	52.9	34.8	34.8	34.8	20.2	20.4	20.2
AGS 747LL	2	8	54.1	.	.	35.7	.	.	19.5	.	.
G14-2622R2	9	9	50.9	49.8	.	35.1	34.9	.	19.5	19.7	.
G14-4364R2	5	8	52.7	52.9	.	34.7	34.9	.	19.3	19.4	.
G15-2017R2	10	10	50.7	.	.	36.2	.	.	18.6	.	.
G15-2330R2	8	10	51.1	.	.	36.2	.	.	19.0	.	.
G15-2379R2	7	9	51.8	.	.	36.6	.	.	18.8	.	.
G15PRLL-989	1	6	54.6	52.0	.	35.1	35.3	.	20.0	20.2	.
N02-7834	18	16	46.5	.	.	37.5	.	.	18.5	.	.
N10-764	16	12	47.5	45.2	47.1	35.9	36.1	36.1	19.8	19.9	19.6
N10-792	6	9	52.1	49.9	49.6	36.2	36.6	36.7	19.8	19.9	19.5
N11-8098	20	17	45.5	.	.	36.4	.	.	19.6	.	.
N11-12528	12	12	49.9	49.7	.	37.6	37.4	.	18.4	18.6	.
N16-9134	19	17	45.6	.	.	37.9	.	.	17.5	.	.
N16-9198	15	14	47.8	.	.	37.7	.	.	17.4	.	.
N16-10425	21	16	44.2	.	.	36.7	.	.	18.8	.	.
N16-10554	17	15	46.7	.	.	36.8	.	.	18.7	.	.
N94-7441	22	17	44.1	.	.	37.5	.	.	17.5	.	.
SC17-5517RR1	13	12	49.3	.	.	34.1	.	.	20.2	.	.
SC17-5537RR2	11	12	50.0	.	.	36.6	.	.	18.9	.	.
Mean	.	.	49.5	.	.	36.2	.	.	19.0	.	.
LSD(0.05)	.	.	4.7	.	.	0.9	.	.	0.5	.	.
CV(%)	.	.	12.9	.	.	3.2	.	.	3.2	.	.

† Data not included in mean: 2019 - Clayton,NC and Tallassee,AL
2018 - Not applicable
2017 - Clemson, SC

‡ Protein percentage and oil percentage reported on a 13% moisture basis beginning in 2015.

§ Data from this check in 2019 was omitted due to poor seed quality. The 18-19 means are actually the 2018 mean and the 17-19 means are actually the means of 2017 and 2018.

TABLE 115 - GENERAL SUMMARY OF PERFORMANCE -Part 2
UNIFORM TEST VII 2019

STRAIN/ VARIETY	MEAL† PRO %	MAT INDEX	LOD	HT	SEED QUALITY	SEED SIZE	FL. COLOR	PUB. COLOR	POD COLOR
AGS-738RR	.	0	.	.	2.7	14.2			
AG74X8 RR2X	48.0	5	2	34	2.3	16.2			
N7003CN	47.6	4	2	34	2.6	16.1	W	T	
NC-Wilder	47.4	3	2	33	1.6	15.5	W	G	
AGS 747LL	48.2	5	2	37	2.0	15.0			
G14-2622R2	47.4	3	2	38	2.2	14.7	P	T	T
G14-4364R2	46.7	3	2	35	1.8	16.3	W	T	T
G15-2017R2	48.3	5	2	36	1.9	14.4	P	T	T
G15-2330R2	48.6	1	2	34	1.8	14.4	P	T	T
G15-2379R2	49.0	1	2	36	2.0	14.0	P	T	T
G15PRLL-989	47.7	0	2	36	1.7	15.7	W	T	T
N02-7834	50.0	2	2	33	2.1	16.2	P	T	
N10-764	48.7	-2	2	33	1.8	15.3	W	T	
N10-792	49.0	5	2	36	2.2	16.3	W	T	
N11-8098	49.2	0	2	33	2.3	18.5	P	T	
N11-12528	50.1	-3	2	34	2.0	13.4	W	G	
N16-9134	50.0	2	2	32	1.9	10.2	W	G	
N16-9198	49.6	5	2	33	1.3	9.5	W	G	
N16-10425	49.1	3	2	35	1.3	10.1	W	G	
N16-10554	49.2	2	2	33	1.2	9.9	W	G	
N94-7441	49.4	5	2	33	1.5	8.6	W	G	
SC17-5517RR1	46.4	4	2	35	1.8	12.8	W	G	
SC17-5537RR2	49.0	5	2	38	2.5	16.1	P	G	
Mean	48.6	3	2	34	1.9	14.1			
LSD(0.05)	1.0	3	0	2	0.5	0.9			
CV(%)	2.7	137	28	8	31.0	8.1			

† Estimated meal protein content was added to the annual report in 2018.

TABLE 116 - GENERAL SUMMARY OF PEST REACTION
UNIFORM TEST VII 2019

STRAIN/	*SCN Cyst Score (1-5 Scale)†*			*PRK*	*SRK*	*SC*	*SC*
VARIETY	*Race 2*	*Race 3*	*Race 5*	*GA*	*GA*	*RATING*	*SCORE*
AGS-738RR	3	1	2	1.8	1.0	R	1.0
AG74X8 RR2X	3	3	3	1.0	1.0	R	1.0
N7003CN	1	1	1	1.0	1.0	S	5.0
NC-Wilder	3	3	4	1.0	1.0	MS	4.0
AGS 747LL	3	.	.	1.0	1.0	SS	3.0
G14-2622R2	1	2	1	1.0	1.0	S	5.0
G14-4364R2	2	2	3	1.0	1.0	R	1.0
G15-2017R2	3	2	2	1.8	1.0	MS	4.0
G15-2330R2	2	2	4	1.0	1.0	R	1.0
G15-2379R2	4	2	3	1.0	1.0	R	1.0
G15PRLL-989	4	2	4	1.0	1.0	MS	4.0
N02-7834	3	2	4	1.8	1.3	SS	3.0
N10-764	3	2	4	4.3	5.0	S	5.0
N10-792	3	3	3	2.3	3.0	R	1.0
N11-8098	2	3	4	3.0	4.0	R	1.0
N11-12528	3	4	3	2.5	2.8	S	5.0
N16-9134	4	3	4	2.8	5.0	MS	4.0
N16-9198	3	2	3	1.0	1.3	R	1.0
N16-10425	3	2	4	3.0	4.8	R	1.0
N16-10554	4	2	4	1.0	1.0	R	1.0
N94-7441	3	3	4	1.0	1.0	R	1.0
SC17-5517RR1	2	3	4	1.0	1.0	R	1.0
SC17-5537RR2	3	2	3	1.0	1.0	SS	3.0
Mean	.	.	.	1.6	1.8		.
LSD (0.05):	.	.	.	0.3	0.2		.
CV (%)	.	.	.	27.0	15.0		.

†The race 2, 3, and 5 SCN populations used in these tests were typed as HG (Heterodera glycines) Type 1.2.5.7, HG Type 5.7, and HG Type 2.5.7, respectively.

TABLE 117 - SEED YIELD (BUSHELS PER ACRE)
UNIFORM TEST VII 2019 †

STRAIN/ VARIETY	Athens, GA(A)	Athens, GA(B)	Bossier City, LA	Calhoun, GA	Clayton, NC	Clemson, SC	Florence, SC
AGS-738RR	.	.	.	.	.	.	.
AG74X8 RR2X	53.8	51.1	70.7	26.5	44.9	65.0	40.4
N7003CN	43.8	41.5	64.9	29.9	34.4	61.1	45.3
NC-Wilder	50.9	51.2	75.9	28.2	34.1	53.6	41.5
AGS 747LL	50.5	51.3	75.0	36.7	35.9	51.2	51.4
G14-2622R2	52.2	51.4	59.2	31.4	37.2	60.1	47.3
G14-4364R2	55.6	50.6	75.0	36.3	34.4	48.2	42.8
G15-2017R2	53.3	45.5	60.0	25.8	37.3	60.5	46.4
G15-2330R2	48.2	50.6	58.7	30.3	33.3	60.3	46.8
G15-2379R2	44.8	47.5	73.3	28.2	31.6	66.4	47.0
G15PRLL-989	49.7	54.3	77.3	38.8	33.7	64.1	38.6
N02-7834	41.7	46.8	57.8	29.7	29.9	58.3	30.7
N10-764	42.0	48.7	33.3	32.3	50.1	65.6	35.5
N10-792	52.1	50.5	67.0	30.7	37.6	61.7	36.9
N11-8098	39.9	47.0	56.8	22.2	37.5	53.6	35.6
N11-12528	49.0	47.8	73.1	32.6	32.3	52.7	38.0
N16-9134	43.6	41.2	59.9	27.0	34.5	54.6	41.0
N16-9198	51.3	43.9	63.5	24.4	36.9	61.1	33.8
N16-10425	50.9	47.1	38.7	22.3	37.4	47.6	31.3
N16-10554	45.2	47.0	62.8	25.1	42.9	51.8	36.5
N94-7441	50.9	46.5	59.2	18.3	32.9	54.6	22.3
SC17-5517RR1	41.0	49.1	68.7	33.2	32.0	57.7	40.6
SC17-5537RR2	43.7	44.1	67.8	30.7	40.2	59.5	38.4
Mean	47.9	47.9	63.6	29.1	36.4	57.7	39.5
LSD(0.05)	7.2	7.8	12.5	7.3	10.6	3.0	3.5
CV(%)	9.1	9.9	11.9	15.1	15.7	3.1	5.4

†Data not included in the mean: Clayton,NC and Tallassee,AL.

TABLE 117 - SEED YIELD (BUSHELS PER ACRE) (continued)
UNIFORM TEST VII 2019 †

STRAIN/ VARIETY	*Kinston, NC*	*Plains, GA*	*Plymouth, NC*	*Tallassee, AL*	*Tifton, GA*	*Test Mean*
AGS-738RR	.	.	.	.	.	.
AG74X8 RR2X	54.7	54.4	34.5	35.2	78.1	52.9
N7003CN	45.8	59.7	25.9	30.5	72.1	49.0
NC-Wilder	50.6	58.1	38.5	31.1	79.1	52.8
AGS 747LL	42.1	53.7	44.6	26.5	84.6	54.1
G14-2622R2	49.8	48.5	39.2	21.3	69.6	50.9
G14-4364R2	44.9	57.0	39.1	37.6	77.3	52.7
G15-2017R2	45.5	61.3	30.3	31.0	78.2	50.7
G15-2330R2	44.0	58.6	32.8	32.8	80.4	51.1
G15-2379R2	48.5	50.9	34.3	30.2	77.4	51.8
G15PRLL-989	48.7	55.0	42.9	32.1	77.2	54.6
N02-7834	43.0	53.8	36.4	35.1	66.2	46.5
N10-764	43.0	56.6	43.0	27.5	75.4	47.5
N10-792	43.4	58.7	48.1	44.0	72.1	52.1
N11-8098	45.7	47.5	31.0	24.8	75.8	45.5
N11-12528	43.0	56.5	36.2	32.5	70.7	49.9
N16-9134	44.2	43.3	33.4	33.1	67.5	45.6
N16-9198	46.5	47.1	30.7	33.5	75.5	47.8
N16-10425	46.5	52.3	34.2	24.9	70.9	44.2
N16-10554	48.2	49.6	36.5	34.0	64.1	46.7
N94-7441	46.8	40.8	31.9	32.4	70.0	44.1
SC17-5517RR1	51.5	50.8	26.6	27.6	73.8	49.3
SC17-5537RR2	44.9	53.6	38.0	31.9	79.5	50.0
Mean	46.4	53.1	35.8	31.3	74.3	49.5
LSD(0.05)	6.3	7.0	7.4	10.8	5.4	4.7
CV(%)	8.3	8.0	12.6	20.9	4.4	12.9

TABLE 118 - RELATIVE MATURITY (DAYS EARLIER (-) OR LATER (+) THAN ENTRY 1)
UNIFORM GROUP VII 2019

STRAIN/ VARIETY	*Athens, GA(A)*	*Athens, GA(B)*	*Clemson, SC*	*Florence, SC*	*Kinston, NC*	*Plymouth, NC*	*Tallassee, AL*
AGS-738RR	10/17	10/21	10/22	10/21	10/28	10/22	11/7
AG74X8 RR2X	3	6	7	6	6	4	0
N7003CN	2	5	7	4	4	2	6
NC-Wilder	0	2	4	4	6	4	-4
AGS 747LL	7	6	6	3	1	5	0
G14-2622R2	7	7	6	2	4	5	-13
G14-4364R2	3	1	3	5	1	5	-5
G15-2017R2	8	3	7	5	4	4	-2
G15-2330R2	8	-1	7	4	1	2	-10
G15-2379R2	1	-2	7	2	6	3	-4
G15PRLL-989	2	-3	4	0	1	2	-10
N02-7834	-2	0	8	5	1	3	-6
N10-764	-2	-2	0	0	3	1	-11
N10-792	3	7	8	8	3	6	0
N11-8098	1	1	-2	8	1	0	-8
N11-12528	-4	-3	-2	4	-3	-1	-14
N16-9134	-3	-3	8	4	3	5	-5
N16-9198	2	3	9	6	2	4	2
N16-10425	2	0	9	5	4	4	-9
N16-10554	3	6	9	4	7	1	-9
N94-7441	10	7	8	5	4	3	-1
SC17-5517RR1	1	6	8	5	5	6	-7
SC17-5537RR2	3	7	7	8	3	4	-2
Mean	2	2	6	4	3	3	-5
LSD(0.05)	1	2	2	4	2	1	7
CV(%)	26	53	25	57	36	15	90

TABLE 118 - RELATIVE MATURITY (continued)
UNIFORM GROUP VII 2019

STRAIN/ VARIETY	*Tifton, GA*	*Test Mean*
AGS-738RR	10/9	10/22
AG74X8 RR2X	11	5
N7003CN	5	4
NC-Wilder	6	3
AGS 747LL	11	5
G14-2622R2	6	3
G14-4364R2	13	3
G15-2017R2	10	5
G15-2330R2	0	1
G15-2379R2	0	1
G15PRLL-989	6	0
N02-7834	10	2
N10-764	-6	-2
N10-792	6	5
N11-8098	-2	0
N11-12528	-4	-3
N16-9134	6	2
N16-9198	10	5
N16-10425	6	3
N16-10554	-4	2
N94-7441	5	5
SC17-5517RR1	9	4
SC17-5537RR2	7	5
Mean	5	3
LSD(0.05)	.	3
CV(%)	0	137

TABLE 119 - PLANT HEIGHT (INCHES)
UNIFORM GROUP VII 2019

STRAIN/ VARIETY	*Athens, GA(A)*	*Athens, GA(B)*	*Bossier City, LA*	*Calhoun, GA*	*Clayton, NC*	*Clemson, SC*	*Florence, SC*
AGS-738RR	.	.	.	.	.	.	.
AG74X8 RR2X	40	40	22	32	41	35	18
N7003CN	38	38	23	35	38	31	21
NC-Wilder	41	40	23	29	34	33	22
AGS 747LL	42	48	23	36	41	36	23
G14-2622R2	45	42	27	35	45	40	24
G14-4364R2	43	41	23	36	44	35	19
G15-2017R2	41	39	26	36	40	37	24
G15-2330R2	40	39	22	33	43	37	19
G15-2379R2	43	43	26	30	42	37	24
G15PRLL-989	41	41	22	36	41	35	20
N02-7834	38	37	23	29	37	34	21
N10-764	38	40	19	32	39	35	16
N10-792	41	40	25	41	40	35	19
N11-8098	38	38	23	35	41	34	18
N11-12528	42	44	24	32	38	31	19
N16-9134	35	35	23	33	32	35	21
N16-9198	40	37	22	31	39	35	18
N16-10425	39	42	26	32	41	33	24
N16-10554	39	39	24	31	39	34	23
N94-7441	41	40	21	32	40	34	19
SC17-5517RR1	41	40	24	35	38	36	25
SC17-5537RR2	43	46	24	36	42	43	20
Mean	40	41	23	34	40	35	21
LSD(0.05)	3	4	4	5	.	3	3
CV(%)	4	5	11	10	.	4	9

TABLE 119 - PLANT HEIGHT (INCHES) (continued)
UNIFORM GROUP VII 2019

STRAIN/ VARIETY	*Kinston, NC*	*Plains, GA*	*Plymouth, NC*	*Tallassee, AL*	*Tifton, GA*	*Test Mean*
AGS-738RR	.	.	.	.	.	.
AG74X8 RR2X	40	28	42	32	35	34
N7003CN	41	33	38	35	35	34
NC-Wilder	34	29	42	33	33	33
AGS 747LL	41	31	44	36	37	37
G14-2622R2	47	34	50	27	39	38
G14-4364R2	38	31	39	38	36	35
G15-2017R2	42	30	40	35	37	36
G15-2330R2	40	30	40	35	35	34
G15-2379R2	45	32	42	35	37	36
G15PRLL-989	43	32	47	35	36	36
N02-7834	41	30	42	32	33	33
N10-764	41	28	46	30	34	33
N10-792	42	31	44	34	35	36
N11-8098	34	31	42	31	33	33
N11-12528	32	30	40	34	35	34
N16-9134	38	25	44	30	32	32
N16-9198	41	22	40	36	35	33
N16-10425	40	30	43	30	35	35
N16-10554	39	26	37	31	33	33
N94-7441	40	24	37	28	35	33
SC17-5517RR1	38	29	37	34	35	35
SC17-5537RR2	39	32	54	35	43	38
Mean	40	29	42	33	36	34
LSD(0.05)	.	3	.	5	2	2
CV(%)	.	7	.	9	3	8

TABLE 120 - PLANT LODGING (1-5)
UNIFORM GROUP VII 2019

STRAIN/ VARIETY	Athens, GA(A)	Athens, GA(B)	Bossier City, LA	Calhoun, GA	Clayton, NC	Clemson, SC	Florence, SC
AGS-738RR	.	.	.	.	.	.	.
AG74X8 RR2X	1.0	1.0	1.0	2.7	1.5	3.3	1.0
N7003CN	2.0	2.0	1.0	3.0	2.0	4.0	1.0
NC-Wilder	2.3	2.7	1.0	3.7	2.5	4.0	1.0
AGS 747LL	2.0	2.0	1.0	2.0	1.5	3.3	1.0
G14-2622R2	1.3	1.3	1.0	2.3	1.5	2.3	1.0
G14-4364R2	1.3	1.7	1.0	2.0	1.5	3.3	1.0
G15-2017R2	2.0	1.0	1.0	1.7	1.5	3.0	1.0
G15-2330R2	1.7	1.3	1.0	1.0	2.0	3.0	1.0
G15-2379R2	1.7	1.7	1.0	2.3	1.0	2.3	1.0
G15PRLL-989	2.3	1.7	1.0	2.7	1.5	3.3	1.0
N02-7834	2.0	2.3	1.0	2.3	1.5	4.0	1.0
N10-764	2.0	2.0	1.0	1.3	1.5	3.3	1.0
N10-792	1.3	1.3	1.0	1.7	1.5	2.0	1.0
N11-8098	1.0	1.7	1.0	2.3	1.5	2.7	1.0
N11-12528	2.3	2.0	1.0	3.7	1.5	4.0	1.0
N16-9134	2.0	2.3	1.0	3.7	2.5	4.0	1.0
N16-9198	2.0	1.3	1.0	3.0	1.5	3.3	1.0
N16-10425	3.0	2.3	1.0	3.3	1.5	4.0	1.0
N16-10554	2.7	1.7	1.0	2.7	1.5	4.0	1.0
N94-7441	2.3	2.0	1.0	4.0	2.0	3.0	1.0
SC17-5517RR1	1.7	2.3	1.0	2.0	2.0	4.0	1.0
SC17-5537RR2	1.7	2.0	1.0	1.7	1.5	4.0	1.0
Mean	1.9	1.8	1.0	2.5	1.7	3.4	1.0
LSD(0.05)	0.8	0.8	.	1.5	.	0.8	.
CV(%)	25.7	25.5	0.0	35.4	.	14.7	0.0

TABLE 120 - PLANT LODGING (1-5) (continued)
UNIFORM GROUP VII 2019

STRAIN/ VARIETY	Kinston, NC	Plains, GA	Plymouth, NC	Tallassee, AL	Tifton, GA	Test Mean
AGS-738RR	.	.	.	.	.	.
AG74X8 RR2X	2.5	1.0	2.0	.	1.7	1.7
N7003CN	2.5	1.0	2.5	.	2.3	2.1
NC-Wilder	2.5	1.0	2.8	.	3.3	2.4
AGS 747LL	2.5	1.0	2.8	.	2.0	1.9
G14-2622R2	2.0	1.0	2.0	.	2.0	1.6
G14-4364R2	2.5	1.0	2.3	.	2.0	1.8
G15-2017R2	2.5	1.0	2.3	.	2.0	1.7
G15-2330R2	2.3	1.0	2.3	.	2.0	1.7
G15-2379R2	2.5	1.0	2.0	.	2.7	1.8
G15PRLL-989	2.3	1.0	2.5	.	2.7	2.0
N02-7834	2.3	1.0	2.0	.	2.3	2.0
N10-764	2.3	1.0	2.0	.	3.3	1.9
N10-792	2.0	1.0	2.0	.	1.3	1.5
N11-8098	2.0	1.0	2.0	.	2.0	1.6
N11-12528	2.5	1.0	2.0	.	4.7	2.4
N16-9134	2.5	1.0	3.0	.	3.7	2.4
N16-9198	2.8	1.0	2.5	.	2.3	2.0
N16-10425	2.3	1.0	2.5	.	2.7	2.3
N16-10554	2.3	1.0	2.8	.	2.7	2.1
N94-7441	2.0	1.0	2.5	.	2.0	2.1
SC17-5517RR1	2.3	1.0	2.0	.	2.0	1.9
SC17-5537RR2	2.5	1.0	2.5	.	2.0	1.9
Mean	2.3	1.0	2.3	.	2.4	1.9
LSD(0.05)	0.5	.	0.4	.	0.8	0.4
CV(%)	9.9	0.0	7.6	.	20.2	27.9

TABLE 121 - SEED QUALITY (1-5)
UNIFORM GROUP VII 2019

STRAIN/ VARIETY	*Athens, GA(A)*	*Athens, GA(B)*	*Bossier City, LA*	*Calhoun, GA*	*Clayton, NC*	*Clemson, SC*	*Florence, SC*
AGS-738RR	.	.	.	.	.	.	.
AG74X8 RR2X	2.3	1.5	1.0	4.3	.	.	.
N7003CN	2.5	1.8	1.0	4.0	.	.	.
NC-Wilder	1.5	1.2	1.0	1.8	.	.	.
AGS 747LL	2.2	1.5	1.0	2.5	.	.	.
G14-2622R2	2.0	1.8	1.0	3.0	.	.	.
G14-4364R2	1.7	1.3	1.0	2.2	.	.	.
G15-2017R2	1.7	1.5	1.0	3.0	.	.	.
G15-2330R2	2.3	1.3	1.0	3.2	.	.	.
G15-2379R2	1.7	1.3	1.0	3.0	.	.	.
G15PRLL-989	1.5	1.3	1.0	2.8	.	.	.
N02-7834	1.8	1.3	1.0	3.3	.	.	.
N10-764	1.8	1.5	1.0	3.2	.	.	.
N10-792	1.8	2.0	1.0	3.8	.	.	.
N11-8098	2.0	2.0	1.0	4.0	.	.	.
N11-12528	1.7	1.2	1.0	3.3	.	.	.
N16-9134	1.8	1.2	1.0	3.5	.	.	.
N16-9198	1.0	1.3	1.0	2.0	.	.	.
N16-10425	1.0	1.0	1.0	2.0	.	.	.
N16-10554	1.0	1.0	1.0	1.7	.	.	.
N94-7441	1.2	1.0	1.0	2.8	.	.	.
SC17-5517RR1	2.5	1.7	1.0	2.7	.	.	.
SC17-5537RR2	2.8	2.2	1.0	4.0	.	.	.
					.	.	.
Mean	1.8	1.5	1.0	3.0			
LSD(0.05)	0.5	0.5	.	1.1	.	.	.
CV(%)	18.1	22.4	0.0	21.5	.	.	.

TABLE 121 - SEED QUALITY (1-5) (continued)
UNIFORM GROUP VII 2019

STRAIN/ VARIETY	Kinston, NC	Plains, GA	Plymouth, NC	Tallassee, AL	Tifton, GA	Test Mean
AGS-738RR	.	.	.	.	.	.
AG74X8 RR2X	.	2.0	1.5	.	3.5	2.3
N7003CN	.	2.3	1.5	.	4.7	2.6
NC-Wilder	.	1.3	1.5	.	2.8	1.6
AGS 747LL	.	1.7	1.5	.	4.0	2.0
G14-2622R2	.	2.0	1.0	.	4.0	2.2
G14-4364R2	.	1.3	1.0	.	4.3	1.8
G15-2017R2	.	1.3	1.0	.	3.7	1.9
G15-2330R2	.	1.0	1.5	.	2.7	1.8
G15-2379R2	.	2.0	1.5	.	3.7	2.0
G15PRLL-989	.	2.0	1.0	.	2.5	1.7
N02-7834	.	1.7	1.5	.	4.0	2.1
N10-764	.	1.7	1.5	.	2.3	1.8
N10-792	.	1.3	1.5	.	3.8	2.2
N11-8098	.	2.5	1.0	.	3.7	2.3
N11-12528	.	2.0	1.0	.	3.7	2.0
N16-9134	.	2.0	1.5	.	2.3	1.9
N16-9198	.	1.3	1.0	.	1.3	1.3
N16-10425	.	1.0	1.0	.	2.5	1.3
N16-10554	.	1.0	1.0	.	2.2	1.2
N94-7441	.	1.0	1.5	.	2.5	1.5
SC17-5517RR1	.	1.7	1.0	.	2.3	1.8
SC17-5537RR2	.	2.3	1.0	.	3.7	2.5
	.			.		
Mean		1.7	1.3		3.2	1.9
LSD(0.05)	.	0.7	.	.	1.6	0.5
CV(%)	.	25.9	.	.	29.1	31.3

TABLE 122 - SEED SIZE (GRAMS PER 100 SEED)
UNIFORM GROUP VII 2019

STRAIN/ VARIETY	*Athens, GA(A)*	*Athens, GA(B)*	*Bossier City, LA*	*Calhoun, GA*	*Clayton, NC*	*Clemson, SC*	*Florence, SC*
AGS-738RR	.	.	.	.	.	.	.
AG74X8 RR2X	17.6	15.5	14.3	13.7	17.8	.	.
N7003CN	17.4	14.0	13.4	12.7	17.4	.	.
NC-Wilder	17.2	14.0	14.0	12.6	17.9	.	.
AGS 747LL	15.8	13.5	13.8	11.9	16.3	.	.
G14-2622R2	17.6	13.9	14.0	11.1	16.9	.	.
G14-4364R2	18.4	14.5	17.9	13.7	16.5	.	.
G15-2017R2	16.0	13.2	14.2	10.8	15.6	.	.
G15-2330R2	16.1	13.1	12.8	12.6	15.9	.	.
G15-2379R2	15.3	13.5	13.8	11.4	14.0	.	.
G15PRLL-989	17.5	14.1	16.1	13.2	17.7	.	.
N02-7834	17.7	13.8	15.5	12.4	18.9	.	.
N10-764	17.3	13.9	11.6	12.3	17.6	.	.
N10-792	18.0	16.2	13.6	13.8	18.9	.	.
N11-8098	19.2	18.7	15.6	13.5	21.6	.	.
N11-12528	15.2	12.7	11.8	10.5	14.8	.	.
N16-9134	12.4	9.3	9.0	8.5	10.7	.	.
N16-9198	10.3	9.3	8.7	7.9	10.8	.	.
N16-10425	11.5	9.5	9.6	8.2	11.0	.	.
N16-10554	11.4	8.8	8.9	7.8	11.9	.	.
N94-7441	9.2	7.4	7.9	7.7	9.4	.	.
SC17-5517RR1	14.6	12.3	11.9	11.6	13.7	.	.
SC17-5537RR2	17.0	15.1	16.5	13.0	17.8	.	.
						.	.
Mean	15.6	13.0	13.0	11.4	15.6		
LSD(0.05)	1.1	1.5	.	1.3	.	.	.
CV(%)	4.4	7.0	.	7.1	.	.	.

TABLE 122 - SEED SIZE (GRAMS PER 100 SEED) (continued)
UNIFORM GROUP VII 2019

STRAIN/ VARIETY	*Kinston, NC*	*Plains, GA*	*Plymouth, NC*	*Tallassee, AL*	*Tifton, GA*	*Test Mean*
AGS-738RR	.	.	.	.	.	.
AG74X8 RR2X	18.4	15.3	14.2	16.7	18.2	16.2
N7003CN	19.4	15.7	13.3	19.7	17.7	16.1
NC-Wilder	18.6	14.9	14.4	14.5	17.3	15.5
AGS 747LL	17.5	14.3	13.8	16.8	16.1	15.0
G14-2622R2	17.2	12.5	13.4	15.9	15.5	14.7
G14-4364R2	17.5	16.1	13.9	16.4	18.2	16.3
G15-2017R2	17.9	14.7	11.3	15.6	15.3	14.4
G15-2330R2	16.4	13.5	13.3	15.0	14.8	14.4
G15-2379R2	17.7	12.1	12.5	14.8	15.3	14.0
G15PRLL-989	17.3	14.7	14.7	15.0	17.7	15.7
N02-7834	21.5	15.6	13.9	16.7	18.2	16.2
N10-764	19.9	14.2	14.9	14.5	17.2	15.3
N10-792	18.1	15.7	15.7	16.4	16.1	16.3
N11-8098	20.9	16.1	15.7	22.1	20.9	18.5
N11-12528	14.7	13.9	11.6	14.3	14.2	13.4
N16-9134	11.5	9.5	8.3	11.3	10.9	10.2
N16-9198	10.7	8.6	7.0	10.9	10.1	9.5
N16-10425	10.9	9.7	8.0	10.0	11.7	10.1
N16-10554	11.5	8.9	7.6	10.8	10.9	9.9
N94-7441	9.9	8.5	6.2	9.0	10.3	8.6
SC17-5517RR1	14.7	13.0	9.9	12.7	13.1	12.8
SC17-5537RR2	19.2	15.1	16.3	15.2	17.4	16.1
Mean	16.4	13.3	12.3	14.7	15.3	14.1
LSD(0.05)	.	1.2	1.5	2.3	1.3	0.9
CV(%)	.	5.3	5.9	9.3	5.0	8.1

TABLE 123 - OIL (%)†
UNIFORM GROUP VII 2019

STRAIN/ VARIETY	Athens, GA(A)	Athens, GA(B)	Bossier City, LA	Calhoun, GA	Clayton, NC	Clemson, SC	Florence, SC
AGS-738RR	.	.	.	.	.	.	.
AG74X8 RR2X	18.2	18.6	19.7	.	19.5	.	19.1
N7003CN	18.1	19.0	19.8	.	18.7	.	19.5
NC-Wilder	19.6	19.6	20.8	.	19.9	.	19.9
AGS 747LL	18.7	19.4	21.1	.	19.7	.	19.1
G14-2622R2	19.5	19.6	19.5	.	19.0	.	18.9
G14-4364R2	19.3	19.1	19.6	.	18.8	.	19.2
G15-2017R2	18.5	17.9	18.8	.	18.2	.	18.2
G15-2330R2	18.1	18.2	19.7	.	18.4	.	18.5
G15-2379R2	18.3	18.3	19.2	.	18.0	.	18.2
G15PRLL-989	19.4	19.8	20.4	.	19.1	.	19.9
N02-7834	17.8	17.9	18.8	.	17.7	.	18.3
N10-764	19.0	19.4	20.7	.	19.9	.	18.9
N10-792	19.5	19.3	20.3	.	19.4	.	19.6
N11-8098	17.6	18.7	20.4	.	19.8	.	18.2
N11-12528	17.8	17.9	18.6	.	17.6	.	17.7
N16-9134	17.4	17.1	17.4	.	17.6	.	16.5
N16-9198	16.9	17.1	17.4	.	17.4	.	17.2
N16-10425	18.3	17.8	19.4	.	18.8	.	18.3
N16-10554	18.3	18.1	19.2	.	19.0	.	18.0
N94-7441	17.1	16.7	17.2	.	17.0	.	16.9
SC17-5517RR1	18.8	19.4	21.4	.	20.1	.	19.0
SC17-5537RR2	17.9	18.5	19.4	.	18.8	.	18.8
Mean	18.4	18.5	19.5	.	18.7	.	18.5
LSD(0.05)	0.5	0.6	0.5	.	1.2	.	0.8
CV(%)	1.6	2.0	1.4	.	3.4	.	2.7

†Oil percentage reported on a 13% moisture basis beginning in 2015.
Protein and oil data from all replicates of a trial were reported in 2019.

TABLE 123 - OIL (%)† (continued)
UNIFORM GROUP VII 2019

STRAIN/ VARIETY	Kinston, NC	Plains, GA	Plymouth, NC	Tallassee, AL	Tifton, GA	Test Mean
AGS-738RR	.	.	.	.	.	.
AG74X8 RR2X	19.5	19.7	20.6	19.8	.	19.4
N7003CN	19.3	19.8	21.8	18.5	.	19.4
NC-Wilder	20.1	20.6	20.7	20.5	.	20.2
AGS 747LL	19.1	19.9	19.6	19.4	.	19.5
G14-2622R2	18.9	20.1	19.7	20.6	.	19.5
G14-4364R2	19.5	19.7	19.5	19.3	.	19.3
G15-2017R2	18.1	19.1	20.3	18.6	.	18.6
G15-2330R2	19.5	19.7	20.5	18.8	.	19.0
G15-2379R2	18.6	19.3	20.0	19.0	.	18.8
G15PRLL-989	19.7	20.1	20.6	20.9	.	20.0
N02-7834	18.2	18.8	19.6	19.2	.	18.5
N10-764	19.7	20.6	19.8	20.6	.	19.8
N10-792	19.7	20.3	19.5	20.5	.	19.8
N11-8098	19.9	19.5	21.8	20.5	.	19.6
N11-12528	18.2	18.9	20.1	18.4	.	18.4
N16-9134	17.4	17.1	19.5	17.2	.	17.5
N16-9198	17.1	16.8	19.1	17.7	.	17.4
N16-10425	18.8	18.9	20.0	19.1	.	18.8
N16-10554	18.4	18.7	20.3	18.8	.	18.7
N94-7441	17.7	17.2	19.8	17.5	.	17.5
SC17-5517RR1	19.6	20.7	22.8	20.1	.	20.2
SC17-5537RR2	18.9	19.6	19.4	19.1	.	18.9
Mean	18.9	19.3	20.2	19.3	.	19.0
LSD(0.05)	0.6	0.6	0.9	0.7	.	0.5
CV(%)	1.8	1.9	2.7	2.1	.	3.2

TABLE 124 - PROTEIN (%)†
UNIFORM GROUP VII 2019

STRAIN/ VARIETY	Athens, GA(A)	Athens, GA(B)	Bossier City, LA	Calhoun, GA	Clayton, NC	Clemson, SC	Florence, SC
AGS-738RR	.	.	.	.	.	.	.
AG74X8 RR2X	37.1	36.3	35.8	.	35.6	.	36.5
N7003CN	36.0	36.4	34.8	.	36.8	.	35.7
NC-Wilder	35.8	35.2	33.8	.	35.4	.	35.5
AGS 747LL	36.0	35.3	35.1	.	35.2	.	36.7
G14-2622R2	35.1	35.1	35.3	.	35.1	.	36.1
G14-4364R2	33.8	34.9	34.3	.	35.6	.	35.5
G15-2017R2	36.1	36.7	36.9	.	37.2	.	36.6
G15-2330R2	37.2	37.3	36.1	.	37.5	.	37.4
G15-2379R2	37.6	37.6	36.6	.	37.9	.	37.6
G15PRLL-989	35.7	35.6	34.6	.	36.4	.	35.8
N02-7834	38.3	38.0	37.2	.	38.3	.	38.1
N10-764	37.0	36.8	34.6	.	35.8	.	37.3
N10-792	36.6	36.3	36.1	.	36.7	.	36.6
N11-8098	38.9	37.4	36.4	.	35.8	.	39.0
N11-12528	39.0	39.0	36.9	.	39.3	.	38.9
N16-9134	38.2	38.2	38.2	.	37.6	.	39.6
N16-9198	38.2	37.9	38.0	.	37.4	.	39.1
N16-10425	37.4	37.7	36.2	.	36.7	.	37.3
N16-10554	37.9	37.7	36.5	.	36.4	.	38.2
N94-7441	38.1	38.3	38.0	.	38.3	.	38.8
SC17-5517RR1	35.9	34.7	33.6	.	35.0	.	36.7
SC17-5537RR2	37.0	36.8	36.2	.	36.9	.	37.0
Mean	37.0	36.8	36.0	.	36.7	.	37.3
LSD(0.05)	1.1	1.2	0.8	.	1.9	.	1.3
CV(%)	1.9	2.0	1.4	.	2.9	.	2.1

†Protein percentage reported on a 13% moisture basis beginning in 2015.
Protein and oil data from all replicates of a trial were reported in 2019.

TABLE 124 - PROTEIN (%)† (continued)
UNIFORM GROUP VII 2019

STRAIN/ VARIETY	Kinston, NC	Plains, GA	Plymouth, NC	Tallassee, AL	Tifton, GA	Test Mean
AGS-738RR	.	.	.	.	.	.
AG74X8 RR2X	35.8	35.9	31.7	35.9	.	35.6
N7003CN	35.2	35.5	29.6	38.1	.	35.3
NC-Wilder	34.5	34.3	32.5	36.3	.	34.8
AGS 747LL	36.0	35.4	34.1	37.3	.	35.7
G14-2622R2	35.2	34.6	33.6	35.5	.	35.1
G14-4364R2	34.2	34.4	33.7	35.8	.	34.7
G15-2017R2	37.7	36.1	30.9	37.3	.	36.2
G15-2330R2	35.5	35.8	31.5	37.8	.	36.2
G15-2379R2	36.4	35.9	32.7	37.4	.	36.6
G15PRLL-989	36.0	34.6	32.4	34.9	.	35.1
N02-7834	38.5	36.9	34.2	37.9	.	37.5
N10-764	35.9	34.7	35.9	35.5	.	36.0
N10-792	36.0	36.1	35.5	35.6	.	36.2
N11-8098	35.7	36.5	30.7	37.2	.	36.4
N11-12528	37.6	37.1	32.3	38.5	.	37.6
N16-9134	38.5	38.5	32.9	39.8	.	37.9
N16-9198	37.8	38.7	32.9	39.1	.	37.7
N16-10425	37.2	36.9	33.1	37.4	.	36.7
N16-10554	37.3	36.9	32.2	38.4	.	36.8
N94-7441	37.4	38.4	32.0	38.5	.	37.5
SC17-5517RR1	34.6	34.4	26.4	35.5	.	34.1
SC17-5537RR2	36.8	35.9	34.8	37.6	.	36.6
Mean	36.4	36.1	32.5	37.1	.	36.2
LSD(0.05)	1.1	1.0	2.2	1.2	.	0.9
CV(%)	1.9	1.6	4.2	1.9	.	3.2

TABLE 125 - MEAL (%)†
UNIFORM GROUP VII 2019

STRAIN/ VARIETY	*Athens, GA(A)*	*Athens, GA(B)*	*Bossier City, LA*	*Calhoun, GA*	*Clayton, NC*	*Clemson, SC*	*Florence, SC*
AGS-738RR	.	.	.	.	.	.	.
AG74X8 RR2X	49.3	48.4	48.5	.	48.0	.	49.0
N7003CN	47.8	48.9	47.2	.	49.1	.	48.1
NC-Wilder	48.3	47.6	46.4	.	48.0	.	48.2
AGS 747LL	48.1	47.5	48.3	.	47.6	.	49.3
G14-2622R2	47.4	47.5	47.7	.	47.0	.	48.4
G14-4364R2	45.6	46.8	46.4	.	47.6	.	47.7
G15-2017R2	48.1	48.6	49.4	.	49.5	.	48.6
G15-2330R2	49.4	49.6	48.9	.	49.9	.	49.9
G15-2379R2	50.0	50.0	49.2	.	50.2	.	49.9
G15PRLL-989	48.2	48.2	47.2	.	48.8	.	48.6
N02-7834	50.7	50.3	49.8	.	50.6	.	50.7
N10-764	49.6	49.7	47.5	.	48.5	.	50.0
N10-792	49.4	48.9	49.3	.	49.4	.	49.5
N11-8098	51.4	50.0	49.7	.	48.5	.	51.9
N11-12528	51.6	51.7	49.3	.	51.8	.	51.4
N16-9134	50.2	50.1	50.4	.	49.6	.	51.5
N16-9198	50.0	49.6	50.0	.	49.2	.	51.3
N16-10425	49.8	49.9	48.8	.	49.1	.	49.6
N16-10554	50.4	50.0	49.2	.	48.8	.	50.6
N94-7441	50.0	49.9	49.9	.	50.1	.	50.7
SC17-5517RR1	48.0	46.8	46.5	.	47.6	.	49.3
SC17-5537RR2	49.0	49.1	48.8	.	49.4	.	49.5
Mean	49.2	49.1	48.6	.	49.0	.	49.7
LSD(0.05)	1.4	1.3	1.0	.	2.0	.	1.5
CV(%)	1.7	1.7	1.3	.	2.2	.	1.8

†Meal percentage reported on a 13% moisture basis beginning in 2018.
Protein and oil data from all replicates of a trial were reported in 2019.

TABLE 125 - MEAL (%)† (continued)
UNIFORM GROUP VII 2019

STRAIN/ VARIETY	Kinston, NC	Plains, GA	Plymouth, NC	Tallassee, AL	Tifton, GA	Test Mean
AGS-738RR	.	.	.	.	.	.
AG74X8 RR2X	48.4	48.6	43.4	48.6	.	48.0
N7003CN	47.4	48.2	41.1	50.8	.	47.6
NC-Wilder	47.0	46.9	44.6	49.6	.	47.4
AGS 747LL	48.3	48.1	46.1	50.4	.	48.2
G14-2622R2	47.1	47.0	45.5	48.6	.	47.4
G14-4364R2	46.2	46.5	45.5	48.2	.	46.7
G15-2017R2	50.1	48.5	42.2	49.8	.	48.3
G15-2330R2	47.9	48.4	43.1	50.6	.	48.6
G15-2379R2	48.6	48.4	44.4	50.2	.	49.0
G15PRLL-989	48.7	47.0	44.3	48.0	.	47.7
N02-7834	51.2	49.3	46.2	51.1	.	50.0
N10-764	48.6	47.4	48.7	48.6	.	48.7
N10-792	48.7	49.2	48.0	48.7	.	49.0
N11-8098	48.5	49.3	42.6	50.8	.	49.2
N11-12528	50.0	49.8	44.0	51.2	.	50.1
N16-9134	50.7	50.4	44.4	52.2	.	50.0
N16-9198	49.6	50.6	44.2	51.7	.	49.6
N16-10425	49.8	49.4	45.0	50.2	.	49.1
N16-10554	49.7	49.4	43.9	51.3	.	49.2
N94-7441	49.4	50.4	43.3	50.7	.	49.4
SC17-5517RR1	46.8	47.1	37.2	48.3	.	46.4
SC17-5537RR2	49.3	48.6	47.0	50.5	.	49.0
Mean	48.7	48.6	44.3	50.0	.	48.6
LSD(0.05)	1.3	1.1	2.6	1.3	.	1.0
CV(%)	1.7	1.4	3.6	1.6	.	2.7

TABLE 126 - PARENTAGE OF ENTRIES
PRELIMINARY GROUP VII 2019

Ent	Strain/Variety	Parentage	Source	Fn	Trans-genic†	Special Traits‡
1	AGS-738RR	G99-4158 x P97M50	Commercial		RR1	
2	AG74X8 RR2X	Commercial check	Commercial		RR2	
3	N7003CN	Cook x Anand	Carter		Conv	
4	NC-Wilder	R97-1634 x N97-9693	Carter		Conv	
5	AGS 747LL	Commercial check	Commercial		LL	
6	G16-4418R2	G06-3182RR x G10PR-224R2 (R2)	Zenglu Li	F5d	RR2	
7	G16-4120R2	G06-3182RR x G10PR-86R2 (R2)	Zenglu Li	F5d	RR2	
8	G16-5129R2	G10PR-86R2 x G11-418R2	Zenglu Li	F5d	RR2	
9	G16-5300RR	G06-3182RR x G10PR-56248R2 (R1)	Zenglu Li	F5d	RR1	
10	G16-5923R2	NCC04-619 x G09PR-54457R2	Zenglu Li	F7d	RR2	
11	G16-5967R2	N05-7462 x G09PR-54457R2	Zenglu Li	F5d	RR2	
12	G16LL-10193	G08-394 x [G00-3213(2) x A5547-127 Liberty]	Zenglu Li	F6d	LL	
13	G16LL-10307	N05-7432 x [G00 3213(2) x A5547-127 Liberty]	Zenglu Li	F6d	LL	
14	SC17-5505RR1	SC07-1518RR x S11-21072	Fallen		RR1	HOLN
15	SC17-6511RR1	TN05-5018 x SC06-676RR	Fallen		RR1	
16	SC17-6512RR1	G08-4200RR x Osage	Fallen		RR1	
17	SC17-6513RR1	SC06-676RR x G04-1618RR	Fallen		RR1	
18	SC18-8502RR1	R08-3206 x G04-1618RR	Fallen		RR1	
19	SC18-8518RR1	SC07-1518RR x S11-21072	Fallen		RR1	HOLN
20	N16-8778	N02-7002 x NMS4-1-45	Carter	F4	Conv	Diversity/elevated protein
21	N16-9240	N7103 x NMS4-3-117	Carter	F4	Conv	Diversity/elevated protein
22	N16-10414	N7103 x NMS4-1-45	Carter	F4	Conv	Diversity/elevated protein
23	N16-10518	N7103 x NMS4-1-45	Carter	F4	Conv	Diversity/elevated protein
24	N16-10519	N7103 x NMS4-1-45	Carter	F4	Conv	Diversity/elevated protein
25	N16-10524	N7103 x NMS4-1-45	Carter	F4	Conv	Diversity/elevated protein
26	N16-10525	N7103 x NMS4-1-45	Carter	F4	Conv	Diversity/elevated protein
27	N94-7441	NTCPR90-143 x PEARL	Carter	F4	Conv	

†Conv= Conventional(non-transgenic),LL= Liberty Link®, RR1= Roundup Ready®, RR2= Roundup Ready 2 Yield®, and RRX= Roundup Ready 2 Xtend®

‡AA= modified amino acids, DNC= Do not cross with this, FLS= Frogeye leaf spot resistance, LJ= Long juvenile, LN= low linolenic acid, LP= low phytate, HO= high oleic acid, HOLN= high oleic acid/low linolenic acid, SCN= Soybean cyst nematode resistance, SR= Soybean rust resistance, and STS= sulfonylurea tolerant

TABLE 127 - GENERAL SUMMARY OF PERFORMANCE
PRELIMINARY TEST VII 2019

STRAIN/ VARIETY	SEED YIELD†	RANK	AVG. RANK	MAT. INDEX	LOD	HT	SCN Cyst Score (1-5)‡ Race 2	Race 3	Race 5	SC RATING	SC SCORE
AGS-738RR §	.	.	.	0	.	.	.	1	4	R	1
AG74X8 RR2X	46.1	11	12	5	1.6	33	4	4	5	R	1
N7003CN	45.2	14	17	4	2.2	33	1	1	1	MS	4
NC-Wilder	50.3	2	7	3	2.1	34	4	5	5	MS	4
AGS 747LL	49.2	5	7	6	2.0	35	4	.	.	SS	3
G16-4418R2	50.1	3	5	3	1.8	36	4	1	3	R	1
G16-4120R2	47.9	8	10	6	2.0	37	3	2	2	R	1
G16-5129R2	49.1	6	8	1	1.8	36	3	3	3	SS	3
G16-5300RR	46.0	12	11	6	2.0	39	3	2	3	R	1
G16-5923R2	52.4	1	5	-1	1.9	36	4	4	4	R	1
G16-5967R2	49.5	4	9	4	2.1	36	3	4	4	R	1
G16LL-10193	48.2	7	12	4	2.1	41	3	4	5	SS	3
G16LL-10307	46.9	9	11	11	2.3	39	3	4	5	R	1
SC17-5505RR1	43.0	20	17	9	2.5	46	3	4	3	MS	4
SC17-6511RR1	46.5	10	13	5	1.9	37	3	1	4	S	5
SC17-6512RR1	41.9	22	19	8	2.4	39	3	2	3	R	1
SC17-6513RR1	44.9	15	14	6	1.9	35	4	5	5	R	1
SC18-8502RR1	36.2	26	24	3	1.8	38	3	4	4	R	1
SC18-8518RR1	40.7	23	19	11	2.6	47	3	4	5	MS	4
N16-8778	44.8	16	12	1	2.1	37	1	2	2	MS	4
N16-9240	40.3	24	21	5	2.3	33	4	4	4	R	1
N16-10414	40.1	25	19	1	1.8	27	3	4	4	R	1
N16-10518	46.0	13	12	2	1.8	32	3	4	4	SS	3
N16-10519	43.1	18	17	0	2.0	30	2	4	5	R	1
N16-10524	43.8	17	15	3	2.3	33	3	5	4	R	1
N16-10525	43.0	19	18	2	2.3	35	2	4	4	S	5
N94-7441	42.0	21	18	2	2.1	31	2	4	5	R	1
Mean	45.3	.	.	4	2.1	36	.	.	.		.
LSD(0.05)	6.2	.	.	4	0.5	4	.	.	.		.
CV(%)	12.9	.	.	91	23.1	10	.	.	.		.

†Data not included in the mean: na

‡The race 2, 3, and 5 SCN populations used in these tests were typed as HG (Heterodera glycines) Type 1.2.5.7, HG Type 5.7, and HG Type 2.5.7, respectively.

§Data from this check in 2019 was omitted due to poor seed quality. The 18-19 means are actually the 2018 mean and the 17-19 means are actually the means of 2017 and 2018.

TABLE 128 - GENERAL SUMMARY OF PERFORMANCE (continued)
PRELIMINARY TEST VII 2019

STRAIN/ VARIETY	SEED QUALITY	SEED SIZE	PROTEIN§ %	OIL§ %	MEAL PRO%	FL COLOR	PUB. COLOR	POD COLOR
AGS-738RR	.	.	.	.	.			
AG74X8 RR2X	2.1	16.4	35.7	19.2	48.1			
N7003CN	2.3	16.7	35.0	19.5	47.3	W	T	
NC-Wilder	1.3	16.6	34.6	20.1	47.1	W	G	
AGS 747LL	1.8	15.7	35.6	19.1	47.8			
G16-4418R2	1.4	14.3	35.6	19.4	48.0	W	T	T
G16-4120R2	2.1	14.5	35.8	18.5	47.8	P	T	T
G16-5129R2	1.7	16.0	35.6	19.2	47.8	W	T	T
G16-5300RR	1.3	14.5	35.7	19.2	48.0	P	T	T
G16-5923R2	1.6	14.2	36.1	18.9	48.4	P	T	T
G16-5967R2	2.4	17.6	34.0	19.4	45.9	W	T	T
G16LL-10193	1.7	17.0	34.8	20.1	47.3	W	T	T
G16LL-10307	1.3	17.1	35.5	17.7	46.8	W	T	T
SC17-5505RR1	2.2	13.6	34.8	19.8	47.2	P	T	
SC17-6511RR1	1.4	11.7	35.7	18.8	47.8	P	T	
SC17-6512RR1	2.0	14.5	35.8	19.0	48.1	P	T	
SC17-6513RR1	1.9	13.9	33.4	20.1	45.5	W	T	
SC18-8502RR1	1.5	14.3	40.3	17.3	52.9	W	T	
SC18-8518RR1	1.8	16.4	35.7	19.5	48.1	P	T	
N16-8778	2.0	12.9	36.1	18.7	48.3	S	T	
N16-9240	1.5	11.3	36.8	18.5	49.1	W	G	
N16-10414	1.3	10.4	38.4	17.2	50.5	W	G	
N16-10518	1.4	10.5	36.6	18.6	48.9	W	G	
N16-10519	1.3	9.8	37.6	17.9	49.8	W	G	
N16-10524	1.1	10.1	37.2	18.2	49.4	W	G	
N16-10525	1.7	10.5	37.4	18.2	49.7	W	G	
N94-7441	1.4	8.6	37.6	17.4	49.4	W	G	
Mean	1.7	13.8	36.1	18.8	48.3			
LSD(0.05)	0.6	1.1	1.0	0.6	1.2			
CV(%)	29.1	6.6	2.3	2.4	2			

§Protein percentage and oil percentage are reported on a 13% moisture basis beginning in 2015.

TABLE 129 - SEED YIELD (BUSHELS PER ACRE)
PRELIMINARY GROUP VII 2019 †

STRAIN/ VARIETY	Athens, GA(A)	Florence, SC	Kinston, NC	Plains, GA	Plymouth, NC	Test Mean
AGS-738RR	.	.	.	.	.	.
AG74X8 RR2X	55.6	32.3	37.1	57.9	47.6	46.1
N7003CN	55.0	50.2	33.3	52.7	35.0	45.2
NC-Wilder	68.6	40.3	35.4	59.4	47.6	50.3
AGS 747LL	63.3	42.3	36.1	55.5	48.9	49.2
G16-4418R2	61.7	50.2	40.3	54.8	43.8	50.1
G16-4120R2	55.8	51.1	40.4	53.5	38.4	47.9
G16-5129R2	60.2	46.5	43.2	47.8	47.9	49.1
G16-5300RR	58.8	40.8	36.4	53.7	40.4	46.0
G16-5923R2	63.3	59.1	42.5	51.9	45.1	52.4
G16-5967R2	61.1	54.6	36.6	50.2	45.3	49.5
G16LL-10193	59.7	55.5	35.1	51.0	39.6	48.2
G16LL-10307	65.6	44.7	37.3	45.9	40.9	46.9
SC17-5505RR1	51.7	44.4	45.4	42.1	31.5	43.0
SC17-6511RR1	55.0	48.0	39.9	47.9	42.1	46.5
SC17-6512RR1	49.1	37.1	31.5	50.4	41.5	41.9
SC17-6513RR1	57.3	37.7	34.4	52.4	42.5	44.9
SC18-8502RR1	41.4	26.6	29.8	46.3	37.1	36.2
SC18-8518RR1	55.9	32.9	37.6	39.2	38.1	40.7
N16-8778	60.3	33.2	38.1	54.0	38.3	44.8
N16-9240	54.2	36.3	35.6	39.8	35.3	40.3
N16-10414	55.7	25.9	33.9	42.7	42.1	40.1
N16-10518	57.4	41.9	35.5	56.2	38.8	46.0
N16-10519	56.5	37.1	32.5	50.7	38.8	43.1
N16-10524	58.2	33.6	38.7	52.3	36.4	43.8
N16-10525	55.0	36.6	33.8	52.4	37.4	43.0
N94-7441	61.0	40.0	28.0	43.8	37.4	42.0
Mean	57.6	41.5	36.5	50.2	40.7	45.3
LSD(0.05)	6.0	2.6	7.5	7.1	7.2	6.2
CV(%)	6.4	3.9	12.5	8.7	10.8	12.9

†Data not included in the mean: na

TABLE 130 - RELATIVE MATURITY (DAYS EARLIER (-) OR LATER (+) THAN ENTRY 1)
PRELIMINARY GROUP VII 2019

STRAIN/ VARIETY	*Athens, GA(A)*	*Florence, SC*	*Kinston, NC*	*Plains, GA*	*Plymouth, NC*	*Test Mean*
AGS-738RR	10/21	10/20	11/1	.	10/24	10/24
AG74X8 RR2X	8	2	6	.	4	5
N7003CN	1	5	8	.	4	4
NC-Wilder	6	1	1	.	4	3
AGS 747LL	8	6	5	.	3	6
G16-4418R2	4	2	1	.	5	3
G16-4120R2	7	7	5	.	5	6
G16-5129R2	-3	2	1	.	4	1
G16-5300RR	8	8	1	.	6	6
G16-5923R2	-6	0	-2	.	4	-1
G16-5967R2	6	3	1	.	6	4
G16LL-10193	4	2	5	.	5	4
G16LL-10307	9	12	10	.	13	11
SC17-5505RR1	10	9	8	.	12	9
SC17-6511RR1	7	2	6	.	4	5
SC17-6512RR1	10	5	10	.	6	8
SC17-6513RR1	6	8	5	.	3	6
SC18-8502RR1	3	2	1	.	5	3
SC18-8518RR1	10	15	7	.	13	11
N16-8778	9	1	5	.	-12	1
N16-9240	5	4	8	.	4	5
N16-10414	-1	0	1	.	5	1
N16-10518	0	1	0	.	5	2
N16-10519	-3	0	1	.	3	0
N16-10524	5	1	1	.	5	3
N16-10525	-1	1	4	.	4	2
N94-7441	2	2	0	.	4	2
Mean	4	4	3	.	5	4
LSD(0.05)	1	6	3	.	9	4
CV(%)	18	103	36	.	95	91

TABLE 131 - PLANT HEIGHT (INCHES)
PRELIMINARY GROUP VII 2019

STRAIN/ VARIETY	*Athens, GA(A)*	*Florence, SC*	*Kinston, NC*	*Plains, GA*	*Plymouth, NC*	*Test Mean*
AGS-738RR	.	.	.	.	.	.
AG74X8 RR2X	40	22	34	28	44	33
N7003CN	38	25	30	31	42	33
NC-Wilder	43	26	30	28	40	34
AGS 747LL	45	28	34	27	40	35
G16-4418R2	45	26	41	30	35	36
G16-4120R2	40	28	38	30	49	37
G16-5129R2	42	26	44	30	38	36
G16-5300RR	47	28	42	33	41	39
G16-5923R2	42	29	38	30	40	36
G16-5967R2	43	30	38	30	38	36
G16LL-10193	50	31	43	37	44	41
G16LL-10307	50	25	41	35	41	39
SC17-5505RR1	55	43	34	40	55	46
SC17-6511RR1	40	28	40	33	43	37
SC17-6512RR1	48	27	43	32	46	39
SC17-6513RR1	42	28	37	28	41	35
SC18-8502RR1	44	25	42	35	43	38
SC18-8518RR1	56	33	54	41	54	47
N16-8778	45	26	38	37	36	37
N16-9240	43	29	35	22	35	33
N16-10414	32	19	32	20	34	27
N16-10518	38	21	33	27	39	32
N16-10519	35	19	35	23	39	30
N16-10524	41	24	36	27	35	33
N16-10525	41	26	35	32	37	35
N94-7441	37	24	32	22	39	31
Mean	43	27	38	30	41	36
LSD(0.05)	3	5	.	5	.	4
CV(%)	4	10	.	9	.	10

TABLE 116 - PLANT LODGING (1-5)
PRELIMINARY GROUP VII 2019

STRAIN/ VARIETY	Athens, GA(A)	Florence, SC	Kinston, NC	Plains, GA	Plymouth, NC	Test Mean
AGS-738RR	.	.	.	.	.	.
AG74X8 RR2X	1.0	1.0	2.5	1.0	2.5	1.6
N7003CN	3.0	1.3	2.8	1.0	2.8	2
NC-Wilder	3.0	1.0	2.8	1.0	3.0	2.1
AGS 747LL	2.3	1.0	2.5	1.0	3.0	2.0
G16-4418R2	2.0	1.0	2.5	1.0	2.8	1.8
G16-4120R2	2.0	1.3	2.8	1.0	2.8	2.0
G16-5129R2	1.7	1.0	2.5	1.0	2.8	1.8
G16-5300RR	2.3	1.0	2.5	1.0	3.0	2.0
G16-5923R2	2.0	1.3	2.5	1.0	2.5	1.9
G16-5967R2	2.3	2.0	2.5	1.0	2.8	2.1
G16LL-10193	3.0	1.3	2.5	1.0	2.5	2.1
G16LL-10307	3.3	1.3	2.8	1.0	3.0	2.3
SC17-5505RR1	3.0	2.3	2.5	1.7	3.0	2.5
SC17-6511RR1	2.0	1.3	2.5	1.0	2.8	1.9
SC17-6512RR1	4.0	1.7	2.8	1.0	2.8	2.4
SC17-6513RR1	2.3	1.3	2.5	1.0	2.5	1.9
SC18-8502RR1	1.7	1.0	2.5	1.0	2.8	1.8
SC18-8518RR1	3.0	2.7	2.8	1.7	3.0	2.6
N16-8778	3.0	1.0	2.5	1.0	3.0	2.1
N16-9240	4.0	1.0	2.5	1.0	3.0	2.3
N16-10414	1.7	1.0	2.5	1.0	2.8	1.8
N16-10518	1.3	1.0	3.0	1.0	3.0	1.8
N16-10519	2.7	1.0	2.5	1.0	3.0	2.0
N16-10524	4.0	1.0	2.8	1.0	2.8	2.3
N16-10525	2.7	1.7	3.0	1.0	3.0	2.3
N94-7441	3.0	1.0	2.8	1.0	2.8	2.1
Mean	2.6	1.3	2.6	1.1	2.8	2.1
LSD(0.05)	0.7	0.6	0.4	0.4	0.5	0.5
CV(%)	16.6	26.9	7.5	23.9	9.4	23

TABLE 133 - SEED QUALITY (1-5)
PRELIMINARY GROUP VII 2019

STRAIN/ VARIETY	Athens, GA(A)	Florence, SC	Kinston, NC	Plains, GA	Plymouth, NC	Test Mean
AGS-738RR	.	.	.	.	.	.
AG74X8 RR2X	2.0	.	.	3	1	2.1
N7003CN	2.0	.	.	3	2	2
NC-Wilder	1.0	.	.	2	1	1.3
AGS 747LL	2.0	.	.	2	2	1.8
G16-4418R2	1.0	.	.	2	2	1.4
G16-4120R2	1.7	.	.	3	2	2.1
G16-5129R2	1.7	.	.	2	2	1.7
G16-5300RR	1.0	.	.	2	1	1.3
G16-5923R2	1.3	.	.	2	2	1.6
G16-5967R2	2.7	.	.	3	2	2.4
G16LL-10193	2.0	.	.	2	1	1.7
G16LL-10307	1.0	.	.	2	2	1.3
SC17-5505RR1	2.0	.	.	3		2.2
SC17-6511RR1	1.3	.	.	2	2	1.4
SC17-6512RR1	2.3	.	.	2	2	2.0
SC17-6513RR1	2.3	.	.	2	1	1.9
SC18-8502RR1	1.3	.	.	2	1	1.5
SC18-8518RR1	1.3	.	.	3	2	1.8
N16-8778	1.3	.	.	3	2	2.0
N16-9240	1.0	.	.	2	1	1.5
N16-10414	1.0	.	.	2	1	1.3
N16-10518	1.0	.	.	2	2	1.4
N16-10519	1.0	.	.	2	1	1.3
N16-10524	1.0	.	.	1	1	1.1
N16-10525	1.0	.	.	3	2	1.7
N94-7441	1.0	.	.	2	2	1.4
Mean	1.5	.	.	2	1	1.7
LSD(0.05)	0.7	.	.	1	.	0.6
CV(%)	28.3	.	.	19	.	29

TABLE 134 - SEED SIZE (GRAMS PER 100 SEED)
PRELIMINARY GROUP VII 2019

STRAIN/ VARIETY	*Athens, GA(A)*	*Florence, SC*	*Kinston, NC*	*Plains, GA*	*Plymouth, NC*	*Test Mean*
AGS-738RR	.	.	.	.	.	.
AG74X8 RR2X	17.5	.	18.3	15	15	16.4
N7003CN	17.2	.	19.2	14	17	16.7
NC-Wilder	18.3	.	17.6	15	15	16.6
AGS 747LL	16.3	.	16.2	15	15	15.7
G16-4418R2	15.4	.	16.0	13	13	14.3
G16-4120R2	15.3	.	16.4	12	15	14.5
G16-5129R2	17.8	.	18.0	13	16	16.0
G16-5300RR	16.0	.	15.4	13	14	14.5
G16-5923R2	15.6	.	14.4	13	14	14.2
G16-5967R2	18.7	.	19.0	16	17	17.6
G16LL-10193	19.4	.	19.3	15	15	17.0
G16LL-10307	19.1	.	18.2	15	16	17.1
SC17-5505RR1	16.4	.	13.4	12	13	13.6
SC17-6511RR1	14.0	.	12.3	10	11	11.7
SC17-6512RR1	16.3	.	15.5	13	13	14.5
SC17-6513RR1	15.8	.	14.3	13	12	13.9
SC18-8502RR1	15.0	.	15.7	13	14	14.3
SC18-8518RR1	18.8	.	16.0	15	15	16.4
N16-8778	14.4	.	14.0	12	12	12.9
N16-9240	12.4	.	13.0	10	10	11.3
N16-10414	11.7	.	11.1	9	10	10.4
N16-10518	11.5	.	10.5	10	9	10.5
N16-10519	10.9	.	10.6	9	9	9.8
N16-10524	10.6	.	10.9	10	9	10.1
N16-10525	11.3	.	11.1	10	10	10.5
N94-7441	9.1	.	9.7	8	7	8.6
Mean	15.2	.	14.9	12	13	13.8
LSD(0.05)	1.1	.	.	1	1	1.1
CV(%)	4.5	.	.	6	5	6.6

TABLE 135 - OIL (%)†
PRELIMINARY GROUP VII 2019

STRAIN/ VARIETY	Athens, GA(A)	Florence, SC	Kinston, NC	Plains, GA	Plymouth, NC	Test Mean
AGS-738RR	.	.	.	.	.	.
AG74X8 RR2X	18.1	19.3	19.3	19.7	19.9	19.2
N7003CN	18.9	19.6	18.8	20.1	20.3	19.5
NC-Wilder	20.4	20.1	19.7	20.4	19.9	20.1
AGS 747LL	18.9	19.2	18.8	19.7	19.1	19.1
G16-4418R2	19.5	19.4	18.6	19.6	19.9	19.4
G16-4120R2	18.9	18.0	18.4	18.5	18.7	18.5
G16-5129R2	19.8	18.4	18.6	20.0	19.1	19.2
G16-5300RR	19.2	19.2	18.8	19.4	19.5	19.2
G16-5923R2	19.4	18.2	18.8	19.3	19.0	18.9
G16-5967R2	18.8	19.1	19.3	20.2	19.6	19.4
G16LL-10193	19.8	19.5	19.6	20.5	21.0	20.1
G16LL-10307	17.9	18.0	16.7	18.0	17.6	17.7
SC17-5505RR1	19.4	19.5	19.9	19.4	20.7	19.8
SC17-6511RR1	19.1	18.5	18.6	18.8	19.0	18.8
SC17-6512RR1	19.2	19.1	18.0	19.7	18.9	19.0
SC17-6513RR1	19.3	20.3	19.0	20.6	21.4	20.1
SC18-8502RR1	17.2	16.9	16.9	16.5	18.8	17.3
SC18-8518RR1	19.3	19.1	20.1	18.8	20.2	19.5
N16-8778	18.7	18.5	17.9	18.8	19.4	18.7
N16-9240	18.6	18.1	18.5	18.1	19.4	18.5
N16-10414	17.4	17.2	17.1	17.2	17.3	17.2
N16-10518	18.6	18.8	18.7	18.2	18.9	18.6
N16-10519	18.0	17.4	17.8	18.2	18.2	17.9
N16-10524	18.0	17.7	18.7	18.3	18.5	18.2
N16-10525	18.1	18.1	17.6	18.2	18.9	18.2
N94-7441	17.3	17.1	17.4	16.9	18.4	17.4
Mean	18.8	18.6	18.5	19.0	19.3	18.8
LSD(0.05)	.	.	.	.	.	0.6
CV(%)	.	.	.	.	.	2.4

†Oil percentage is reported on a 13% moisture basis beginning in 2015.

TABLE 136 - PROTEIN (%)†
PRELIMINARY GROUP VII 2019

STRAIN/ VARIETY	Athens, GA(A)	Florence, SC	Kinston, NC	Plains, GA	Plymouth, NC	Test Mean
AGS-738RR	.	.	.	.	.	.
AG74X8 RR2X	37.5	36.2	35.2	36.5	33.3	35.7
N7003CN	35.9	35.0	35.8	35.9	32.5	35.0
NC-Wilder	35.0	33.9	34.4	35.4	34.3	34.6
AGS 747LL	35.5	36.2	35.4	35.7	35.1	35.6
G16-4418R2	36.1	37.2	35.3	36.1	33.2	35.6
G16-4120R2	35.3	36.9	36.3	36.5	34.2	35.8
G16-5129R2	34.7	37.0	35.9	35.1	35.2	35.6
G16-5300RR	34.7	36.8	36.3	36.9	33.9	35.7
G16-5923R2	36.4	36.8	35.7	36.0	35.5	36.1
G16-5967R2	34.5	35.5	34.2	33.2	32.8	34.0
G16LL-10193	36.4	36.2	35.2	34.6	31.6	34.8
G16LL-10307	35.2	35.6	35.5	36.2	34.8	35.5
SC17-5505RR1	36.0	36.4	33.5	36.5	31.9	34.8
SC17-6511RR1	36.2	36.4	35.3	36.4	34.4	35.7
SC17-6512RR1	36.4	36.2	36.9	34.7	35.0	35.8
SC17-6513RR1	34.6	34.3	34.2	34.4	29.7	33.4
SC18-8502RR1	40.6	40.7	40.6	41.7	37.8	40.3
SC18-8518RR1	34.9	37.5	34.2	37.7	34.1	35.7
N16-8778	37.1	36.6	37.2	36.4	33.4	36.1
N16-9240	37.0	38.0	36.6	38.6	33.8	36.8
N16-10414	39.1	38.8	38.3	38.7	37.3	38.4
N16-10518	37.0	36.9	36.2	37.8	35.3	36.6
N16-10519	37.8	38.5	37.7	38.3	35.9	37.6
N16-10524	38.4	37.8	36.2	38.0	35.5	37.2
N16-10525	38.3	37.5	38.0	37.9	35.4	37.4
N94-7441	38.2	38.1	37.9	38.9	34.8	37.6
Mean	36.5	36.8	36.1	36.7	34.3	36.1
LSD(0.05)	.	.	.	.	.	1.0
CV(%)	.	.	.	.	.	2.3

†Protein percentage is reported on a 13% moisture basis beginning in 2015.

TABLE 137 - ESTIMATED MEAL PROTEIN (%)†
PRELIMINARY GROUP VII 2019

STRAIN/ VARIETY	Athens, GA(A)	Florence, SC	Kinston, NC	Plains, GA	Plymouth, NC	Test Mean
AGS-738RR	.	.	.	.	.	.
AG74X8 RR2X	49.8	48.7	47.4	49.4	45.2	48.1
N7003CN	48.2	47.3	47.9	48.8	44.2	47.3
NC-Wilder	47.8	46.2	46.6	48.4	46.5	47.1
AGS 747LL	47.6	48.6	47.4	48.3	47.1	47.8
G16-4418R2	48.7	50.1	47.1	48.8	45.1	48.0
G16-4120R2	47.3	48.9	48.3	48.7	45.7	47.8
G16-5129R2	47.0	49.2	47.8	47.7	47.3	47.8
G16-5300RR	46.6	49.4	48.6	49.7	45.8	48.0
G16-5923R2	49.2	48.9	47.8	48.4	47.6	48.4
G16-5967R2	46.2	47.7	46.0	45.2	44.4	45.9
G16LL-10193	49.3	48.9	47.5	47.3	43.5	47.3
G16LL-10307	46.6	47.1	46.4	48.0	45.9	46.8
SC17-5505RR1	48.5	49.1	45.4	49.2	43.7	47.2
SC17-6511RR1	48.6	48.5	47.1	48.7	46.1	47.8
SC17-6512RR1	49.0	48.7	48.9	46.9	46.9	48.1
SC17-6513RR1	46.6	46.7	45.9	47.1	41.1	45.5
SC18-8502RR1	53.3	53.2	53.1	54.3	50.5	52.9
SC18-8518RR1	47.0	50.4	46.5	50.5	46.4	48.1
N16-8778	49.6	48.8	49.2	48.7	45.1	48.3
N16-9240	49.4	50.4	48.8	51.2	45.6	49.1
N16-10414	51.4	50.9	50.2	50.9	49.0	50.5
N16-10518	49.4	49.4	48.4	50.2	47.3	48.9
N16-10519	50.1	50.6	49.8	50.8	47.7	49.8
N16-10524	50.8	50.0	48.4	50.5	47.3	49.4
N16-10525	50.8	49.7	50.2	50.3	47.4	49.7
N94-7441	50.2	49.9	49.9	50.8	46.4	49.4
Mean	48.8	49.1	48.1	49.2	46.1	48.3
LSD(0.05)	.	.	.	.	.	1.2
CV(%)	.	.	.	.	.	2.0

†Estimated meal protein percentage is reported on a 13% moisture basis.

SUMMARY OF SEED FATTY ACIDS (%)
PRELIMINARY TEST VII 2019 †

STRAIN/ VARIETY	*Palmitic Acid*	*Stearic Acid*	*Oleic Acid*	*Linoleic Acid*	*Linolenic Acid*
AGS-738RR	12.0	3.7	23.0	55.0	6.6
AG74X8 RR2X	11.0	4.4	24.0	55.0	6.5
N7003CN	12.0	3.4	21.0	56.0	7.2
SC17-5505RR1	11.0	3.7	26.0	52.0	6.7
SC18-8518RR1	7.5	2.8	75.0	9.8	4.8
Mean	11.0	3.6	34.0	45.0	6.3
LSD(0.05)	0.3	0.4	5.1	4.9	0.4
CV(%)	2.4	8.7	11.0	8.1	4.8

†Fatty acid percentage in seed oil reported beginning in 2017.

SEED PALMITIC ACID (%)
PRELIMINARY GROUP VII 2019

STRAIN/ VARIETY	*Athens, GA(A)*	*Florence, SC*	*Kinston, NC*	*Plains, GA*	*Plymouth, NC*	*Test Mean*
AGS-738RR	11.3	11.6	11.8	12.3	11.4	11.7
AG74X8 RR2X	10.7	11.0	10.9	11.2	10.7	10.9
N7003CN	12.2	12.4	12.5	12.8	12.4	12.5
SC17-5505RR1	10.0	11.2	11.1	11.9	10.9	11.0
SC18-8518RR1	7.0	7.2	7.6	8.5	7.2	7.5
Mean	10.2	10.7	10.8	11.3	10.5	10.7
LSD(0.05)	.	.	.	.	.	0.3
CV(%)	.	.	.	.	.	2.4

SEED STEARIC ACID (%)
PRELIMINARY GROUP VII 2019

STRAIN/ VARIETY	*Athens, GA(A)*	*Florence, SC*	*Kinston, NC*	*Plains, GA*	*Plymouth, NC*	*Test Mean*
AGS-738RR	4.2	3.5	3.8	3.6	3.4	3.7
AG74X8 RR2X	5.1	4.4	3.9	4.2	4.5	4.4
N7003CN	3.7	3.3	3.2	3.3	3.3	3.4
SC17-5505RR1	4.6	4.2	3.1	3.4	3.3	3.7
SC18-8518RR1	2.8	2.7	2.5	3.1	2.8	2.8
Mean	4.1	3.6	3.3	3.5	3.4	3.6
LSD(0.05)	.	.	.	.	.	0.4
CV(%)	.	.	.	.	.	8.7

SEED OLEIC ACID (%)
PRELIMINARY GROUP VII 2019

STRAIN/ VARIETY	Athens, GA(A)	Florence, SC	Kinston, NC	Plains, GA	Plymouth, NC	Test Mean
AGS-738RR	23.7	24.2	24.3	23.8	20.3	23.3
AG74X8 RR2X	24.9	25.3	22.4	24.1	21.5	23.6
N7003CN	22.1	21.2	22.3	20.5	20.4	21.3
SC17-5505RR1	30.8	27.7	22.5	25.9	23.6	26.1
SC18-8518RR1	81.2	81.1	71.1	62.5	79.5	75.1
Mean	36.5	35.9	32.5	31.4	33.1	33.9
LSD(0.05)	.	.	.	.	.	5.1
CV(%)	.	.	.	.	.	11.3

SEED LINOLEIC ACID (%)
PRELIMINARY GROUP VII 2019

STRAIN/ VARIETY	Athens, GA(A)	Florence, SC	Kinston, NC	Plains, GA	Plymouth, NC	Test Mean
AGS-738RR	54.8	55.0	53.1	53.8	57.1	54.8
AG74X8 RR2X	53.6	53.3	55.6	54.4	55.7	54.5
N7003CN	55.8	56.5	54.4	56.2	55.6	55.7
SC17-5505RR1	48.7	51.1	55.4	52.4	55.0	52.5
SC18-8518RR1	4.5	4.7	13.5	21.4	5.2	9.8
Mean	43.5	44.1	46.4	47.6	45.7	45.5
LSD(0.05)	.	.	.	.	.	4.9
CV(%)	.	.	.	.	.	8.1

SEED LINOLENIC ACID (%)
PRELIMINARY GROUP VII 2019

STRAIN/ VARIETY	Athens, GA(A)	Florence, SC	Kinston, NC	Plains, GA	Plymouth, NC	Test Mean
AGS-738RR	6.0	5.7	7.0	6.4	7.8	6.6
AG74X8 RR2X	5.7	5.9	7.2	6.0	7.6	6.5
N7003CN	6.2	6.6	7.6	7.2	8.2	7.2
SC17-5505RR1	5.8	5.8	7.9	6.5	7.3	6.7
SC18-8518RR1	4.5	4.4	5.3	4.4	5.3	4.8
Mean	5.7	5.7	7.0	6.1	7.2	6.3
LSD(0.05)	.	.	.	.	.	0.4
CV(%)	.	.	.	.	.	4.8

TABLE 138 - PARENTAGE OF ENTRIES
UNIFORM GROUP VIII 2019

Ent	Strain/Variety	Parentage	Source	Fn	Trans-genic†	Special Traits‡
1	AG79X9RR2X/SR	Commercial check	Commercial		RRX	
2	N8001	N7001 x Cook	Carter		Conv	
3	N8002	N7001 x Cook	Carter		Conv	
4	AGS 798R2ÿ	Commercial check	Commercial		RR2	
5	G13-3461R2	NCC02-307 x (G3213 x RR2Y)	Zenglu Li	F7d	RR2	
6	G14-4316R2	N05-7462 x G00-3880(3)RR2Y	Zenglu Li	F6d	RR2	
7	G14-4396R2	N06-7564 x G00-3213(3)RR2Y	Zenglu Li	F6d	RR2	
8	G15-1465R2	G10PR-56248R2 x G10PR-10R2	Zenglu Li	F6d	RR2	
9	G15LL-9205	NCC06-899 x [G00-3213(2) x A5547-127 Liberty]	Zenglu Li	F6d	LL	
10	G15PRLL-953	NCC06-899 x [G00-3213(2) x A5547-127 Liberty]	Zenglu Li	F6d	LL	
11	N14-8522	NMS4-44-329 x N7103	Carter	F4	Conv	Diversity/elevated protein
12	N14-8537	NMS4-44-329 x N7103	Carter	F4	Conv	Diversity/elevated protein
13	N16-9171	N7103 x NMS5-48-2-75	Carter	F4	Conv	Diversity/elevated protein

†Conv= Conventional(non-transgenic), LL= Liberty Link®, RR1= Roundup Ready®, and RR2=Roundup Ready 2 Yield®
RRX= Roundup Ready 2 Xtend®
‡AA= modified amino acids, DNC= Do not cross with this, FLS= Frogeye leaf spot resistance, LJ= Long juvenile,
LN= low linolenic acid, LP= low phytate, HO= high olelic acid, HOLN= high oleic acid/low linolenic acid,
SCN= Soybean cyst nematode resistance, SR= Soybean rust resistance,
and STS= sulfonylurea tolerant

TABLE 139 - GENERAL SUMMARY OF PERFORMANCE
UNIFORM TEST VIII 2019

STRAIN/ VARIETY	RANK	AVG. RANK	YIELD† 2019	YIELD† 18-19	YIELD† 17-19	PROTEIN‡ 2019	PROTEIN‡ 18-19	PROTEIN‡ 17-19	OIL‡ 2019	OIL‡ 18-19	OIL‡ 17-19
AG79X9RR2X/SR	5	6	52.5	.	.	36.3	.	.	18.6	.	.
N8001	8	8	50.2	47.9	47.8	35.9	36.3	36.6	18.7	18.7	18.4
N8002	10	8	49.1	48.3	49.3	36.4	36.3	36.2	18.4	18.7	18.6
AGS 798R2	12	10	46.9	45.7	.	36.9	36.8	.	18.6	19.1	.
G13-3461R2	6	7	51.5	50.5	49.8	36.7	36.5	35.9	19.1	19.4	19.3
G14-4316R2	2	4	54.4	52.6	.	34.1	33.8	.	20.1	20.3	.
G14-4396R2	4	6	53.5	52.9	.	37.5	37.4	.	17.8	18.1	.
G15-1465R2	7	7	51.2	.	.	34.7	.	.	19.4	.	.
G15LL-9205	1	4	54.9	.	.	34.3	.	.	20.7	.	.
G15PRLL-953	3	4	54.2	52.4	.	34.1	34.3	.	20.4	20.5	.
N14-8522	9	8	49.8	.	.	37.2	.	.	18.4	.	.
N14-8537	13	10	46.3	45.1	45.4	37.4	37.6	37.6	17.8	18.0	18.0
N16-9171	11	8	48.7	.	.	38.3	.	.	17.3	.	.
Mean	.	.	51.0	.	.	36.1	.	.	18.9	.	.
LSD(0.05)	.	.	4.3	.	.	0.7	.	.	0.4	.	.
CV(%)	.	.	10.3	.	.	2.4	.	.	2.7	.	.

† Data not included in mean: 2019 - Tallassee,AL
2018 - Not applicable
2017 - Clemson, SC

‡ Protein percentage and oil percentage reported on a 13% moisture basis beginning in 2015.

TABLE 140 - GENERAL SUMMARY OF PERFORMANCE -Part 2
UNIFORM TEST VIII 2019

STRAIN/ VARIETY	MEAL† PRO %	MAT INDEX	LOD	HT	SEED QUALITY	SEED SIZE	FL. COLOR	PUB. COLOR	POD COLOR
AG79X9RR2X/SR	48.5	0	1	40	2.6	18.6			
N8001	47.9	-3	3	38	1.9	14.9	P	G	
N8002	48.5	1	3	36	1.5	15.0	P	G	T
AGS 798R2	48.5	-2	2	30	2.1	15.0			
G13-3461R2	49.3	-8	2	34	1.7	16.4	P	T	T
G14-4316R2	46.4	-2	2	39	2.2	17.8	W	T	T
G14-4396R2	49.6	-6	3	36	2.1	15.6	W	T	T
G15-1465R2	46.8	-4	2	39	1.8	14.4	W	T	T
G15LL-9205	47.0	-2	2	39	1.2	14.4	W	G	T
G15PRLL-953	46.5	-2	2	36	1.7	15.6	W	G	T
N14-8522	49.6	-1	2	32	1.4	10.1	P	G	
N14-8537	49.5	-1	3	39	2.0	9.9	P	T	
N16-9171	50.3	-2	2	34	1.4	10.2	W	T	
Mean	48.3	-2	2	36	1.8	14.5			
LSD(0.05)	0.7	3	0	2	0.6	1.0			
CV(%)	2.0	130	24	8	28.0	7.4			

† Estimated meal protein content was added to the annual report in 2018.

TABLE 141 - GENERAL SUMMARY OF PEST REACTION
UNIFORM TEST VIII 2019

STRAIN/ VARIETY	SCN Cyst Score (1-5 Scale)†			PRK GA	SRK GA	SC RATING	SC SCORE
	Race 2	Race 3	Race 5				
AG79X9RR2X/SR	2	.	.	1.0	1.0	S	5.0
N8001	2	3	4	1.0	1.0	MS	4.0
N8002	2	3	4	3.8	4.5	MS	4.0
AGS 798R2	.	2	4	1.0	1.0	R	1.0
G13-3461R2	4	2	4	1.0	1.0	SS	3.0
G14-4316R2	3	1	4	1.0	1.0	SS	3.0
G14-4396R2	2	4	4	1.0	1.0	S	5.0
G15-1465R2	2	4	3	1.0	1.0	MR	2.0
G15LL-9205	3	3	3	1.0	1.0	MS	4.0
G15PRLL-953	3	3	4	1.5	1.0	MS	4.0
N14-8522	4	2	2	1.0	1.0	R	1.0
N14-8537	5	2	4	1.0	1.0	R	1.0
N16-9171	4	4	3	2.0	1.0	R	1.0
Mean	.	.	.	1.3	1.3		.
LSD (0.05):	.	.	.	0.3	0.1		.
CV (%)	.	.	.	30.0	13.0		.

†The race 2, 3, and 5 SCN populations used in these tests were typed as HG (Heterodera glycines) Type 1.2.5.7, HG Type 5.7, and HG Type 2.5.7, respectively.

TABLE 142 - SEED YIELD (BUSHELS PER ACRE)
UNIFORM TEST VIII 2019 †

STRAIN/ VARIETY	Athens, GA(A)	Athens, GA(B)	Clayton, NC	Clemson, SC	Florence, SC	Kinston, NC	Plains, GA	Tallassee, AL	Tifton, GA	Test Mean
AG79X9RR2X/SR	54.1	47.3	43.4	69.4	33.7	47.2	51.7	21.6	72.9	52.5
N8001	55.8	52.3	40.1	52.5	32.2	43.5	50.7	43.8	75.0	50.2
N8002	61.6	41.0	33.7	60.2	27.4	44.8	50.8	29.0	73.6	49.1
AGS 798R2	52.7	49.1	.	.	24.0	.	.	.	.	46.9
G13-3461R2	59.7	46.7	36.4	65.2	37.3	37.4	53.9	35.8	75.5	51.5
G14-4316R2	62.4	50.5	41.5	63.0	35.2	44.7	55.7	41.1	81.6	54.4
G14-4396R2	57.2	48.7	34.1	61.7	41.1	43.1	55.6	35.8	86.5	53.5
G15-1465R2	56.1	48.6	43.5	58.5	32.7	44.3	49.9	34.8	75.6	51.2
G15LL-9205	56.4	46.6	47.1	67.3	46.2	47.4	54.7	42.5	73.8	54.9
G15PRLL-953	59.7	50.3	37.5	67.4	33.5	47.0	56.6	38.4	81.5	54.2
N14-8522	51.6	41.1	45.6	56.9	33.4	45.3	55.8	41.0	69.9	49.8
N14-8537	49.0	41.5	32.7	53.2	39.3	39.5	50.6	39.1	65.0	46.3
N16-9171	57.4	50.8	35.0	57.2	29.4	39.4	52.2	34.6	68.4	48.7
Mean	56.4	47.3	39.2	61.0	34.3	43.6	53.2	36.4	74.9	51.0
LSD(0.05)	6.2	9.4	10.1	2.7	3.0	7.4	8.0	21.4	6.7	4.3
CV(%)	6.6	11.8	13.8	2.6	5.2	10.0	8.9	33.8	5.3	10.3

†Data not included in the mean: Tallassee,AL.

TABLE 143 - RELATIVE MATURITY (DAYS EARLIER (-) OR LATER (+) THAN ENTRY 1)
UNIFORM GROUP VIII 2019

STRAIN/ VARIETY	Athens, GA(A)	Athens, GA(B)	Clayton, NC	Clemson, SC	Florence, SC	Kinston, NC	Tallassee, AL	Tifton, GA	Test Mean
AG79X9RR2X/SR	10/25	10/27	11/2	10/29	10/29	11/2	11/6	10/24	10/30
N8001	-3	1	-5	1	-3	-3	-6	-3	-3
N8002	-8	-2	1	4	-1	1	11	-1	1
AGS 798R2	-6	1	0	0	-1	-2	.	-6	-2
G13-3461R2	-8	-10	-9	0	-1	-8	-12	-14	-8
G14-4316R2	1	-3	-7	0	0	0	-7	2	-2
G14-4396R2	-7	-7	-7	1	-2	-8	-12	-3	-6
G15-1465R2	-7	-6	-5	1	-2	-3	-9	-4	-4
G15LL-9205	0	1	-2	1	-1	-5	-6	-6	-2
G15PRLL-953	-3	0	-2	2	-1	0	-7	-5	-2
N14-8522	1	0	-2	2	-1	1	-4	-4	-1
N14-8537	3	0	0	0	-2	0	-7	-4	-1
N16-9171	-4	-1	-5	0	0	0	-5	-3	-2
Mean	-3	-2	-3	1	-1	-2	-5	-4	-2
LSD(0.05)	2	1	6	1	3	2	5	.	3
CV(%)	42	32	83	82	216	41	55	0	130

TABLE 144 - PLANT HEIGHT (INCHES)
UNIFORM GROUP VIII 2019

STRAIN/ VARIETY	Athens, GA(A)	Athens, GA(B)	Clayton, NC	Clemson, SC	Florence, SC	Kinston, NC	Plains, GA	Tallassee, AL	Tifton, GA	Test Mean
AG79X9RR2X/SR	47	43	44	37	28	45	39	41	39	40
N8001	41	45	41	36	26	41	34	37	42	38
N8002	41	38	41	35	24	36	30	39	36	36
AGS 798R2	35	32	.	.	24	.	.	.	.	30
G13-3461R2	39	38	37	34	24	31	30	35	33	34
G14-4316R2	45	43	45	38	28	44	32	37	36	39
G14-4396R2	44	39	42	33	25	41	31	36	37	36
G15-1465R2	43	44	48	36	27	43	37	39	38	39
G15LL-9205	48	42	44	35	29	43	30	39	40	39
G15PRLL-953	43	40	42	35	23	42	29	38	36	36
N14-8522	35	38	34	30	26	40	27	30	32	32
N14-8537	49	41	40	31	36	41	34	36	39	39
N16-9171	41	36	35	33	24	40	28	34	33	34
Mean	42	40	41	34	27	41	32	37	37	36
LSD(0.05)	3	5	.	2	4	.	3	4	3	2
CV(%)	4	7	.	3	9	.	6	6	4	8

TABLE 145 - PLANT LODGING (1-5)
UNIFORM GROUP VIII 2019

STRAIN/ VARIETY	Athens, GA(A)	Athens, GA(B)	Clayton, NC	Clemson, SC	Florence, SC	Kinston, NC	Plains, GA	Tallassee, AL	Tifton, GA	Test Mean
AG79X9RR2X/SR	1.0	1.3	1.5	2.0	1.0	2.0	1.0	.	1.3	1.4
N8001	2.7	2.7	1.5	3.0	1.0	2.5	1.7	.	4.3	2.5
N8002	3.0	2.3	2.0	3.7	1.0	2.3	1.7	.	3.7	2.5
AGS 798R2	2.0	2.0	.	.	1.0	2.0	.	.	.	1.9
G13-3461R2	2.0	1.7	2.0	3.0	1.0	2.0	1.3	.	2.0	1.9
G14-4316R2	2.0	1.3	1.5	3.0	1.0	2.0	1.0	.	2.0	1.7
G14-4396R2	3.0	2.3	2.5	3.3	1.0	2.3	2.0	.	4.0	2.5
G15-1465R2	2.3	1.7	1.5	2.3	1.0	2.5	1.3	.	2.7	1.9
G15LL-9205	2.7	2.0	1.5	3.3	1.0	2.5	1.7	.	3.3	2.3
G15PRLL-953	3.0	2.3	2.0	3.0	1.0	2.0	1.0	.	2.3	2.1
N14-8522	2.0	2.7	1.5	2.7	1.0	2.5	1.0	.	2.0	1.9
N14-8537	3.0	2.3	2.5	4.0	1.0	2.3	1.7	.	3.0	2.5
N16-9171	2.7	1.7	1.0	3.0	1.0	2.3	1.0	.	2.0	1.8
Mean	2.4	2.0	1.8	3.0	1.0	2.2	1.4	.	2.7	2.1
LSD(0.05)	0.7	0.8	.	0.6	.	0.6	0.7	.	0.8	0.4
CV(%)	17.6	23.5	.	12.3	0.0	11.9	30.0	.	18.0	24.4

TABLE 146 - SEED QUALITY (1-5)
UNIFORM GROUP VIII 2019

STRAIN/ VARIETY	Athens, GA(A)	Athens, GA(B)	Clayton, NC	Clemson, SC	Florence, SC	Kinston, NC	Plains, GA	Tallassee, AL	Tifton, GA	Test Mean
AG79X9RR2X/SR	2.0	1.3	.	.	.	.	2.3	.	4.7	2.6
N8001	1.2	1.0	.	.	.	.	2.0	.	3.3	1.9
N8002	1.0	1.0	.	.	.	.	1.7	.	2.3	1.5
AGS 798R2	1.3	1.3	.	.	.	.	.	.	3.7	2.1
G13-3461R2	1.2	1.0	.	.	.	.	2.0	.	2.8	1.7
G14-4316R2	1.5	1.0	.	.	.	.	2.0	.	4.5	2.2
G14-4396R2	2.0	1.0	.	.	.	.	2.0	.	3.3	2.1
G15-1465R2	1.3	1.0	.	.	.	.	1.7	.	3.2	1.8
G15LL-9205	1.2	1.0	.	.	.	.	1.0	.	1.7	1.2
G15PRLL-953	1.0	1.0	.	.	.	.	2.0	.	2.7	1.7
N14-8522	1.0	1.0	.	.	.	.	1.3	.	2.2	1.4
N14-8537	1.7	1.0	.	.	.	.	1.7	.	3.8	2.0
N16-9171	1.0	1.0	.	.	.	.	1.0	.	2.5	1.4
Mean	1.3	1.1	.	.	.	.	1.7	.	3.1	1.8
LSD(0.05)	0.6	0.4	.	.	.	.	0.6	.	0.8	0.6
CV(%)	24.9	21.5	.	.	.	.	21.6	.	15.1	27.8

TABLE 147 - SEED SIZE (GRAMS PER 100 SEED)
UNIFORM GROUP VIII 2019

STRAIN/ VARIETY	*Athens, GA(A)*	*Athens, GA(B)*	*Clayton, NC*	*Clemson, SC*	*Florence, SC*	*Kinston, NC*	*Plains, GA*	*Tallassee, AL*	*Tifton, GA*	*Test Mean*
AG79X9RR2X/SR	20.3	17.3	19.9	.	.	19.3	15.5	20.4	18.4	18.6
N8001	16.6	15.3	12.2	.	.	16.3	14.2	13.8	14.9	14.9
N8002	15.3	15.9	14.4	.	.	16.2	13.8	15.7	13.6	15.0
AGS 798R2	14.9	14.4	.	.	.	16.8	.	.	15.7	15.0
G13-3461R2	18.5	14.8	17.3	.	.	16.5	16.6	15.2	16.1	16.4
G14-4316R2	20.0	16.1	17.2	.	.	19.1	16.2	17.3	18.5	17.8
G14-4396R2	15.6	14.8	15.3	.	.	16.0	14.4	16.5	16.3	15.6
G15-1465R2	15.6	13.4	15.3	.	.	17.7	12.6	13.7	13.9	14.4
G15LL-9205	15.6	13.6	14.2	.	.	15.5	13.0	14.7	14.5	14.4
G15PRLL-953	17.3	15.0	15.0	.	.	17.4	14.2	14.5	16.1	15.6
N14-8522	11.2	9.5	9.2	.	.	10.5	9.9	9.9	10.0	10.1
N14-8537	10.4	9.0	10.3	.	.	11.0	9.2	9.1	10.7	9.9
N16-9171	10.2	9.8	8.7	.	.	11.2	9.1	10.9	11.3	10.2
Mean	15.5	13.8	14.1	.	.	15.7	13.2	14.3	14.6	14.5
LSD(0.05)	0.8	0.9	.	.	.	.	0.9	2.8	1.0	1.0
CV(%)	3.1	3.9	.	.	.	.	4.0	10.2	4.1	7.4

TABLE 149 - OIL (%)†
UNIFORM GROUP VIII 2019

STRAIN/ VARIETY	Athens, GA(A)	Athens, GA(B)	Clayton, NC	Clemson, SC	Florence, SC	Kinston, NC	Plains, GA	Tallassee, AL	Tifton, GA	Test Mean
AG79X9RR2X/SR	17.9	18.4	19.1	.	17.7	18.6	18.3	19.9	.	18.6
N8001	18.4	18.0	18.5	.	18.3	18.7	19.2	19.8	.	18.7
N8002	18.0	17.7	18.3	.	17.2	19.0	18.6	19.9	.	18.4
AGS 798R2	19.4	19.0	.	.	17.5	.	.	.	.	19.2
G13-3461R2	19.1	18.1	19.3	.	18.0	19.5	19.8	19.9	.	19.1
G14-4316R2	19.6	19.7	20.5	.	18.9	20.6	20.4	21.0	.	20.1
G14-4396R2	17.1	17.4	17.2	.	17.6	17.9	18.3	19.5	.	17.8
G15-1465R2	19.8	18.3	19.6	.	18.2	19.5	19.6	20.9	.	19.4
G15LL-9205	19.8	20.0	20.9	.	20.0	21.1	21.1	22.1	.	20.7
G15PRLL-953	20.3	19.7	20.3	.	19.4	20.6	20.7	21.5	.	20.4
N14-8522	18.5	17.8	18.9	.	17.7	18.4	18.8	19.0	.	18.4
N14-8537	18.0	17.0	18.1	.	16.4	18.3	18.0	18.8	.	17.8
N16-9171	17.5	16.5	17.7	.	16.7	17.6	17.5	17.7	.	17.3
Mean	18.7	18.3	19.0	.	18.0	19.1	19.2	20.0	.	18.9
LSD(0.05)	0.6	0.5	1.0	.	0.9	0.5	0.5	1.0	.	0.4
CV(%)	1.8	1.7	2.9	.	3.1	1.6	1.7	2.9	.	2.7

†Oil percentage reported on a 13% moisture basis beginning in 2015.
Protein and oil data from all replicates of a trial were reported in 2019.

TABLE 149 - PROTEIN (%)†
UNIFORM GROUP VIII 2019

STRAIN/ VARIETY	Athens, GA(A)	Athens, GA(B)	Clayton, NC	Clemson, SC	Florence, SC	Kinston, NC	Plains, GA	Tallassee, AL	Tifton, GA	Test Mean
AG79X9RR2X/SR	37.1	36.2	34.8	.	38.2	36.1	36.8	35.1	.	36.3
N8001	37.0	36.4	36.0	.	36.7	35.0	35.7	34.2	.	35.8
N8002	37.3	37.6	35.7	.	38.3	35.6	35.9	34.6	.	36.4
AGS 798R2	36.1	36.0	.	.	38.5	.	.	.	.	36.1
G13-3461R2	37.9	37.5	36.1	.	37.5	35.5	36.7	35.6	.	36.7
G14-4316R2	34.7	34.4	33.2	.	36.4	32.1	34.1	33.8	.	34.1
G14-4396R2	38.7	37.8	38.0	.	38.1	37.0	37.5	35.5	.	37.5
G15-1465R2	35.0	35.7	33.5	.	36.5	34.5	34.7	33.0	.	34.7
G15LL-9205	35.7	35.2	33.6	.	35.6	33.2	34.2	32.7	.	34.3
G15PRLL-953	34.7	34.8	33.8	.	35.9	32.8	34.1	32.7	.	34.1
N14-8522	37.6	37.6	36.3	.	37.5	36.9	37.4	37.3	.	37.2
N14-8537	37.3	38.2	37.3	.	38.8	36.8	37.5	36.1	.	37.4
N16-9171	38.3	38.9	37.5	.	38.9	37.7	37.9	38.7	.	38.3
Mean	36.7	36.6	35.5	.	37.4	35.3	36.0	34.9	.	36.1
LSD(0.05)	1.0	0.7	1.8	.	1.1	1.5	0.9	2.1	.	0.7
CV(%)	1.6	1.2	2.7	.	1.8	2.5	1.4	3.4	.	2.4

†Protein percentage reported on a 13% moisture basis beginning in 2015.
Protein and oil data from all replicates of a trial were reported in 2019.

TABLE 151 - MEAL (%)†
UNIFORM GROUP VIII 2019

STRAIN/ VARIETY	Athens, GA(A)	Athens, GA(B)	Clayton, NC	Clemson, SC	Florence, SC	Kinston, NC	Plains, GA	Tallassee, AL	Tifton, GA	Test Mean
AG79X9RR2X/SR	49.0	48.2	46.8	.	50.4	48.3	48.9	47.6	.	48.5
N8001	49.2	48.3	47.9	.	48.9	46.8	48.0	46.4	.	47.9
N8002	49.5	49.6	47.5	.	50.2	47.8	47.9	47.0	.	48.5
AGS 798R2	48.7	48.3	.	.	50.7	.	.	.	.	48.5
G13-3461R2	50.9	49.8	48.6	.	49.6	48.0	49.7	48.3	.	49.3
G14-4316R2	46.9	46.6	45.3	.	48.8	44.0	46.6	46.4	.	46.4
G14-4396R2	50.8	49.7	49.9	.	50.2	49.0	49.9	47.9	.	49.6
G15-1465R2	47.4	47.5	45.3	.	48.5	46.6	46.9	45.4	.	46.8
G15LL-9205	48.4	47.8	46.2	.	48.3	45.7	47.1	45.7	.	47.0
G15PRLL-953	47.3	47.2	46.1	.	48.3	44.9	46.7	45.3	.	46.5
N14-8522	50.1	49.8	48.6	.	49.6	49.2	50.0	50.1	.	49.6
N14-8537	49.5	50.0	49.5	.	50.4	49.0	49.7	48.3	.	49.5
N16-9171	50.4	50.6	49.5	.	50.7	49.8	50.0	51.1	.	50.3
Mean	49.1	48.7	47.6	.	49.6	47.4	48.5	47.4	.	48.3
LSD(0.05)	1.3	0.9	2.2	.	1.1	1.7	1.0	2.3	.	0.7
CV(%)	1.6	1.1	2.4	.	1.4	2.2	1.2	2.7	.	2.0

†Meal percentage reported on a 13% moisture basis beginning in 2018.
Protein and oil data from all replicates of a trial were reported in 2019.

INTENTIONALLY BLANK

TABLE 151 - PARENTAGE OF ENTRIES
PRELIMINARY GROUP VIII 2019

Ent	Strain/Variety	Parentage	Source	Fn	Trans-genic†	Special Traits‡
1	AG79X9RR2X/SR	Commercial check	Commercial		RR2	
2	N8001	N7001 x Cook	Carter		Conv	
3	N8002	N7001 x Cook	Carter		Conv	
4	AGS 798R2	Commercial check	Commercial		RR2	
5	G16-1216R2	G00-3880R2 x Benning EMGH	Zenglu Li	F4d	RR2	
6	G16-2919R2	R04-522 x G10PR-56248R2	Zenglu Li	F6d	RR2	
7	G16-2946R2	R04-522 x G10PR-56248R2	Zenglu Li	F6d	RR2	
8	G16-4620R2	G10PR-86R2 x G10PR-56330R2	Zenglu Li	F5d	RR2	
9	G16-5022R2	G10PR-56444R2 x G11PR-407R2	Zenglu Li	F5d	RR2	
10	G16-6075R2	N05-7432 x G09PR-54457R2	Zenglu Li	F7d	RR2	
11	G16LL-10180	G08-394 x [G00-3213(2) x A5547-127 Liberty]	Zenglu Li	F6d	LL	
12	G16LL-10316	N05-7432 x [G00 3213(2) x A5547-127 Liberty]	Zenglu Li	F6d	LL	
13	G16LL-10314	N05-7432 x [G00 3213(2) x A5547-127 Liberty]	Zenglu Li	F6d	LL	
14	SC17-6009	Coker x NCC07-8138	Fallen		Conv	
15	SC17-6508RR1	G06-3182RR x SC02-011RR	Fallen		RR1	
16	SC17-6513RR1	SC06-676RR x G04-1618RR	Fallen		RR1	
17	SC17-6515RR1	SC07-1518RR x S11-21072	Fallen		RR1	
18	SC17-6518LRR1	SC07-1518RR x S11-21072	Fallen		RR1	
19	SC17-6521RR2	TN12-6509R2 x SC07-786RR	Fallen		RR2	

†Conv= Conventional(non-transgenic),LL= Liberty Link®, RR1= Roundup Ready®, RR2= Roundup Ready 2 Yield®, and RRX= Roundup Ready 2 Xtend®

‡AA= modified amino acids, DNC= Do not cross with this, FLS= Frogeye leaf spot resistance, LJ= Long juvenile, LN= low linolenic acid, LP= low phytate, HO= high oleic acid, HOLN= high oleic acid/low linolenic acid, SCN= Soybean cyst nematode resistance, SR= Soybean rust resistance, and STS= sulfonylurea tolerant

TABLE 152 - GENERAL SUMMARY OF PERFORMANCE
PRELIMINARY TEST VIII 2019

STRAIN/ VARIETY	SEED YIELD†	RANK	AVG. RANK	MAT. INDEX	LOD	HT	SCN Cyst Score (1-5)‡ Race 2	Race 3	Race 5	SC RATING	SC SCORE
AG79X9RR2X/SR	44.2	12	9	0	1.3	38	4	.	.	SS	3
N8001	48.3	5	6	-1	2.2	37	4	3	3	MS	4
N8002	45.9	7	8	0	1.9	34	3	3	2	MS	4
AGS 798R2	.	.	.	.	.	.	.	2	1	R	1
G16-1216R2	44.6	9	9	0	2.0	37	3	2	4	S	5
G16-2919R2	42.2	16	14	-1	1.6	36	3	1	4	R	1
G16-2946R2	42.0	17	15	-3	1.5	36	3	4	4	R	1
G16-4620R2	44.5	11	10	-3	1.5	37	2	4	3	R	1
G16-5022R2	49.4	2	5	-1	2.0	37	2	3	4	R	1
G16-6075R2	44.6	10	10	0	2.0	36	2	3	2	R	1
G16LL-10180	48.6	4	6	-1	1.3	36	2	2	3	SS	3
G16LL-10316	49.7	1	6	4	1.9	40	1	2	4	SS	3
G16LL-10314	49.2	3	6	2	1.8	42	2	4	4	MS	4
SC17-6009	45.1	8	10	0	2.4	38	2	3	4	R	1
SC17-6508RR1	44.1	13	11	1	2.4	43	1	1	3	MS	4
SC17-6513RR1	46.4	6	8	-1	1.8	37	1	4	3	R	1
SC17-6515RR1	43.9	14	12	2	2.3	42	2	2	3	SS	3
SC17-6518LRR1	42.3	15	14	1	2.2	41	2	4	4	R	1
SC17-6521RR2	41.0	18	15	6	2.4	43	2	2	2	R	1
Mean	45.3	.	.	0	1.9	38	.	.	.		.
LSD(0.05)	6.8	.	.	3	0.5	3	.	.	.		.
CV(%)	12.8	.	.	1402	25.1	10	.	.	.		.

†Data not included in the mean: Clayton,NC.

‡The race 2, 3, and 5 SCN populations used in these tests were typed as HG (Heterodera glycines) Type 1.2.5.7, HG Type 5.7, and HG Type 2.5.7, respectively.

TABLE 153 - GENERAL SUMMARY OF PERFORMANCE (continued)
PRELIMINARY TEST VIII 2019

STRAIN/ VARIETY	SEED QUALITY	SEED SIZE	PROTEIN§ %	OIL§ %	MEAL PRO%	FL COLOR	PUB. COLOR	POD COLOR
AG79X9RR2X/SR	2.5	18.8	36.6	18.2	48.6			
N8001	1.8	15.9	36.9	18.2	49.0	P	G	
N8002	1.3	15.9	36.6	18.2	48.6	P	G	T
AGS 798R2	.	.	.	.	.			
G16-1216R2	2.0	15.3	37.0	18.6	49.3	P	T	T
G16-2919R2	1.8	13.8	36.5	18.3	48.5	W	T	T
G16-2946R2	1.3	13.7	38.4	17.8	50.7	W	G	T
G16-4620R2	1.5	15.2	38.9	17.6	51.3	P	T	T
G16-5022R2	2.0	14.6	37.9	18.6	50.6	P	T	T
G16-6075R2	1.8	15.4	36.7	18.2	48.7	P	T	T
G16LL-10180	1.5	17.0	37.7	18.9	50.5	W	G	T
G16LL-10316	2.0	16.4	35.7	18.3	47.6	W	T	T
G16LL-10314	1.7	17.3	36.1	19.2	48.5	W	T	T
SC17-6009	2.3	15.8	35.7	18.8	47.8	P	T	
SC17-6508RR1	2.0	14.1	35.8	19.2	48.2	P	T	
SC17-6513RR1	2.0	15.6	35.1	18.9	47.0	W	T	
SC17-6515RR1	2.2	14.6	36.4	19.1	48.9	W	T	
SC17-6518LRR1	1.5	15.3	37.3	18.7	49.8	P	T	
SC17-6521RR2	2.0	16.0	36.7	18.6	49.0	W	T	
Mean	1.9	15.6	36.8	18.5	49.0			
LSD(0.05)	1.0	1.2	1.1	0.7	1.2			
CV(%)	30.9	6.4	2.4	2.9	1.9			

§Protein percentage and oil percentage are reported on a 13% moisture basis beginning in 2015.

TABLE 154 - SEED YIELD (BUSHELS PER ACRE)
PRELIMINARY GROUP VIII 2019 †

STRAIN/ VARIETY	Athens, GA(A)	Clayton, NC	Florence, SC	Kinston, NC	Plains, GA	Test Mean
AG79X9RR2X/SR	62.3	40.5	30.7	49.3	34.3	44.2
N8001	61.7	38.7	34.8	44.0	52.6	48.3
N8002	62.0	38.5	23.4	47.8	50.6	45.9
AGS 798R2	.		.	.	.	.
G16-1216R2	51.4	30.7	34.7	45.4	47.1	44.6
G16-2919R2	50.8	40.8	29.3	42.8	45.9	42.2
G16-2946R2	55.6	36.0	30.9	39.0	42.3	42.0
G16-4620R2	56.2	38.9	33.8	40.9	47.1	44.5
G16-5022R2	65.7	46.9	28.0	52.1	52.0	49.4
G16-6075R2	55.7	36.7	34.1	45.0	43.5	44.6
G16LL-10180	55.6	35.3	41.7	46.0	51.1	48.6
G16LL-10316	56.8	38.1	50.3	48.3	43.4	49.7
G16LL-10314	63.5	45.6	32.5	44.5	56.3	49.2
SC17-6009	53.9	34.5	31.6	44.9	50.2	45.1
SC17-6508RR1	56.1	38.0	31.2	39.8	49.4	44.1
SC17-6513RR1	58.6	37.9	37.4	44.6	44.9	46.4
SC17-6515RR1	55.0	36.1	39.7	38.1	42.8	43.9
SC17-6518LRR1	54.1	31.7	34.6	39.2	41.6	42.3
SC17-6521RR2	50.4	38.5	26.4	41.9	45.4	41.0
Mean	57.0	38.0	33.6	44.1	46.7	45.3
LSD(0.05)	9.6	13.0	3.1	7.0	5.9	6.8
CV(%)	10.2	15.7	5.5	9.4	7.6	12.8

†Data not included in the mean: Clayton,NC.

TABLE 156 - RELATIVE MATURITY (DAYS EARLIER (-) OR LATER (+) THAN ENTRY 1)
PRELIMINARY GROUP VIII 2019

STRAIN/ VARIETY	*Athens, GA(A)*	*Clayton, NC*	*Florence, SC*	*Kinston, NC*	*Plains, GA*	*Test Mean*
AG79X9RR2X/SR	10/29	10/31	10/26	11/4	.	10/30
N8001	0	-1	0	-4	.	-1
N8002	-5	2	2	0	.	0
AGS 798R2	.	.	.	.	.	.
G16-1216R2	3	0	2	-7	.	0
G16-2919R2	0	-2	0	-3	.	-1
G16-2946R2	-5	-6	1	-5	.	-3
G16-4620R2	-6	-5	2	-3	.	-3
G16-5022R2	1	-3	1	-1	.	-1
G16-6075R2	1	-2	3	-4	.	0
G16LL-10180	-4	0	2	-1	.	-1
G16LL-10316	1	5	5	6	.	4
G16LL-10314	0	5	2	2	.	2
SC17-6009	2	-6	2	-1	.	0
SC17-6508RR1	1	-1	3	0	.	1
SC17-6513RR1	0	-5	5	-6	.	-1
SC17-6515RR1	3	3	1	0	.	2
SC17-6518LRR1	1	-3	5	-1	.	1
SC17-6521RR2	2	7	7	6	.	6
Mean	0	0	2	-1	.	0
LSD(0.05)	1	5	4	3	.	3
CV(%)	242	622	94	118	.	1402

TABLE 156 - PLANT HEIGHT (INCHES)
PRELIMINARY GROUP VIII 2019

STRAIN/ VARIETY	Athens, GA(A)	Clayton, NC	Florence, SC	Kinston, NC	Plains, GA	Test Mean
AG79X9RR2X/SR	50	38	25	42	33	38
N8001	49	42	30	38	26	37
N8002	40	38	26	36	28	34
AGS 798R2	.		.	.	.	.
G16-1216R2	52	38	24	45	31	37
G16-2919R2	44	40	27	37	29	36
G16-2946R2	44	39	27	43	28	36
G16-4620R2	45	41	26	42	31	37
G16-5022R2	48	38	28	44	31	37
G16-6075R2	47	38	31	40	26	36
G16LL-10180	43	39	30	40	29	36
G16LL-10316	51	39	30	45	37	40
G16LL-10314	52	43	33	48	36	42
SC17-6009	48	41	29	42	31	38
SC17-6508RR1	54	40	37	46	37	43
SC17-6513RR1	47	41	27	43	27	37
SC17-6515RR1	54	39	38	42	37	42
SC17-6518LRR1	52	39	34	48	36	41
SC17-6521RR2	51	46	36	45	37	43
Mean	48	40	30	43	32	38
LSD(0.05)	4	10	4	.	4	3
CV(%)	4	15	8	.	7	10

TABLE 138 - PLANT LODGING (1-5)
PRELIMINARY GROUP VIII 2019

STRAIN/ VARIETY	Athens, GA(A)	Clayton, NC	Florence, SC	Kinston, NC	Plains, GA	Test Mean
AG79X9RR2X/SR	1.7	1.0	1.0	2.0	1.0	1.3
N8001	4.0	2.0	1.3	2.5	1.0	2.2
N8002	3.7	1.5	1.0	2.3	1.0	1.9
AGS 798R2	.		.	.	.	.
G16-1216R2	3.7	1.5	1.3	2.3	1.0	2.0
G16-2919R2	2.0	1.5	1.0	2.3	1.3	1.6
G16-2946R2	2.3	1.5	1.0	2.0	1.0	1.5
G16-4620R2	2.0	1.5	1.0	2.0	1.3	1.5
G16-5022R2	3.3	2.0	1.0	2.5	1.3	2.0
G16-6075R2	4.0	2.0	1.0	2.3	1.0	2.0
G16LL-10180	1.7	1.0	1.0	2.0	1.0	1.3
G16LL-10316	2.7	2.0	1.0	2.3	1.7	1.9
G16LL-10314	3.3		1.0	2.0	1.3	1.8
SC17-6009	4.0	2.0	1.3	2.5	2.0	2.4
SC17-6508RR1	3.7	1.5	2.0	2.5	2.0	2.4
SC17-6513RR1	3.0	1.5	1.0	2.0	1.3	1.8
SC17-6515RR1	3.0	2.0	2.0	2.5	2.0	2.3
SC17-6518LRR1	4.0	1.5	1.7	2.0	1.7	2.2
SC17-6521RR2	4.0	1.5	1.7	2.5	2.0	2.4
Mean	3.1	1.6	1.2	2.2	1.4	1.9
LSD(0.05)	0.7	.	0.5	0.4	0.6	0.5
CV(%)	13.1	.	23.3	8.1	25.9	25.1

TABLE 158 - SEED QUALITY (1-5)
PRELIMINARY GROUP VIII 2019

STRAIN/ VARIETY	Athens, GA(A)	Clayton, NC	Florence, SC	Kinston, NC	Plains, GA	Test Mean
AG79X9RR2X/SR	2.0	.	.	.	3	2.5
N8001	1.7	.	.	.	2	1.8
N8002	1.0	.	.	.	2	1.3
AGS 798R2	.		.	.	.	.
G16-1216R2	2.3	.	.	.	2	2.0
G16-2919R2	2.7	.	.	.	1	1.8
G16-2946R2	1.3	.	.	.	1	1.3
G16-4620R2	1.3	.	.	.	2	1.5
G16-5022R2	2.0	.	.	.	2	2.0
G16-6075R2	1.7	.	.	.	2	1.8
G16LL-10180	1.0	.	.	.	2	1.5
G16LL-10316	2.0	.	.	.	2	2.0
G16LL-10314	1.3	.	.	.	2	1.7
SC17-6009	1.7	.	.	.	3	2.3
SC17-6508RR1	2.0	.	.	.	2	2.0
SC17-6513RR1	1.7	.	.	.	2	2.0
SC17-6515RR1	2.0	.	.	.	2	2.2
SC17-6518LRR1	1.3	.	.	.	2	1.5
SC17-6521RR2	2.0	.	.	.	2	2.0
Mean	1.7	.	.	.	2	1.9
LSD(0.05)	0.7	.	.	.	1	1.0
CV(%)	25.0	.	.	.	17	30.9

TABLE 159 - SEED SIZE (GRAMS PER 100 SEED)
PRELIMINARY GROUP VIII 2019

STRAIN/ VARIETY	*Athens, GA(A)*	*Clayton, NC*	*Florence, SC*	*Kinston, NC*	*Plains, GA*	*Test Mean*
AG79X9RR2X/SR	20.7	19.1	.	20	16	18.8
N8001	17.3	15.9	.	15	15	15.9
N8002	16.6	16.4	.	16	15	15.9
AGS 798R2	.	.	.	.	.	.
G16-1216R2	17.4	13.8	.	15	15	15.3
G16-2919R2	14.4	15.5	.	14	12	13.8
G16-2946R2	15.0	13.1	.	15	12	13.7
G16-4620R2	16.4	14.8	.	16	14	15.2
G16-5022R2	15.6	15.2	.	15	13	14.6
G16-6075R2	15.9	16.9	.	15	14	15.4
G16LL-10180	17.7	15.1	.	19	17	17.0
G16LL-10316	18.1	14.5	.	16	16	16.4
G16LL-10314	17.3	.	.	18	17	17.3
SC17-6009	16.5	15.8	.	16	15	15.8
SC17-6508RR1	15.8	13.6	.	14	13	14.1
SC17-6513RR1	16.6	15.6	.	16	15	15.6
SC17-6515RR1	16.8	14.5	.	13	13	14.6
SC17-6518LRR1	16.1	15.5	.	15	14	15.3
SC17-6521RR2	17.5	15.7	.	15	15	16.0
Mean	16.8	15.4	.	16	15	15.6
LSD(0.05)	1.3	.	.	.	1	1.2
CV(%)	4.8	.	.	.	6	6.4

TABLE 160 - OIL (%)†
PRELIMINARY GROUP VIII 2019

STRAIN/ VARIETY	Athens, GA(A)	Clayton, NC	Florence, SC	Kinston, NC	Plains, GA	Test Mean
AG79X9RR2X/SR	18.2	19.8	17.0	18.9	17.2	18.2
N8001	19.0	18.5	16.8	18.3	18.6	18.2
N8002	19.0	19.0	15.6	19.1	18.0	18.2
AGS 798R2	.	.	.	.	.	.
G16-1216R2	18.1	18.3	17.8	19.8	18.7	18.6
G16-2919R2	17.9	18.9	16.1	19.2	19.2	18.3
G16-2946R2	18.1	18.1	16.2	18.5	18.0	17.8
G16-4620R2	18.4	18.1	16.2	17.7	17.7	17.6
G16-5022R2	19.3	19.5	15.9	19.2	18.9	18.6
G16-6075R2	18.7	18.7	16.3	18.5	18.6	18.2
G16LL-10180	19.5	18.5	17.8	19.5	19.3	18.9
G16LL-10316	18.9	17.8	18.2	19.0	17.7	18.3
G16LL-10314	20.0	.	17.9	19.5	19.0	19.2
SC17-6009	18.9	19.6	17.0	19.1	19.3	18.8
SC17-6508RR1	19.7	19.8	18.5	19.2	18.8	19.2
SC17-6513RR1	18.6	19.9	17.6	19.4	19.0	18.9
SC17-6515RR1	19.3	19.1	18.3	19.5	19.2	19.1
SC17-6518LRR1	19.2	19.2	17.3	19.4	18.5	18.7
SC17-6521RR2	18.8	19.0	17.4	19.0	18.9	18.6
Mean	18.9	18.9	17.1	19.0	18.6	18.5
LSD(0.05)	.	.	.	.	.	0.7
CV(%)	.	.	.	.	.	2.9

†Oil percentage is reported on a 13% moisture basis beginning in 2015.

TABLE 161 - PROTEIN (%)†
PRELIMINARY GROUP VIII 2019

STRAIN/ VARIETY	Athens, GA(A)	Clayton, NC	Florence, SC	Kinston, NC	Plains, GA	Test Mean
AG79X9RR2X/SR	36.7	34.1	38.5	35.4	38.1	36.6
N8001	36.6	35.6	39.0	36.2	37.0	36.9
N8002	35.6	34.9	40.8	34.7	37.0	36.6
AGS 798R2	.	.	.	.	.	.
G16-1216R2	38.5	35.7	39.1	33.9	37.7	37.0
G16-2919R2	36.3	36.0	38.9	34.9	36.5	36.5
G16-2946R2	37.8	37.5	40.4	37.5	38.8	38.4
G16-4620R2	37.1	38.6	40.1	39.1	39.4	38.9
G16-5022R2	37.6	36.3	41.3	36.4	37.9	37.9
G16-6075R2	36.0	35.5	39.5	35.8	36.7	36.7
G16LL-10180	36.8	38.0	39.3	36.3	37.8	37.7
G16LL-10316	35.7	36.5	36.4	32.6	37.6	35.7
G16LL-10314	35.1	.	37.8	34.8	37.7	36.1
SC17-6009	35.4	34.9	38.4	33.4	36.7	35.7
SC17-6508RR1	36.2	34.2	37.0	35.6	36.1	35.8
SC17-6513RR1	35.2	32.9	37.2	34.3	36.0	35.1
SC17-6515RR1	36.2	35.8	37.6	35.4	36.9	36.4
SC17-6518LRR1	36.8	35.9	39.9	35.6	38.1	37.3
SC17-6521RR2	35.4	35.8	38.9	35.5	37.7	36.7
Mean	36.4	35.8	38.9	35.4	37.4	36.8
LSD(0.05)	.	.	.	.	.	1.1
CV(%)	.	.	.	.	.	2.4

†Protein percentage is reported on a 13% moisture basis beginning in 2015.

TABLE 162 - ESTIMATED MEAL PROTEIN (%)†
PRELIMINARY GROUP VIII 2019

STRAIN/ VARIETY	Athens, GA(A)	Clayton, NC	Florence, SC	Kinston, NC	Plains, GA	Test Mean
AG79X9RR2X/SR	48.7	46.2	50.5	47.5	50.0	48.6
N8001	49.1	47.4	50.9	48.2	49.4	49.0
N8002	47.8	46.8	52.5	46.7	49.1	48.6
AGS 798R2	.	.	.	.	.	.
G16-1216R2	51.1	47.5	51.7	45.9	50.4	49.3
G16-2919R2	48.0	48.2	50.3	46.9	49.0	48.5
G16-2946R2	50.2	49.8	52.3	50.0	51.4	50.7
G16-4620R2	49.4	51.2	52.0	51.7	52.0	51.3
G16-5022R2	50.6	49.1	53.4	49.0	50.8	50.6
G16-6075R2	48.2	47.5	51.2	47.7	49.1	48.7
G16LL-10180	49.7	50.7	52.0	49.0	50.9	50.5
G16LL-10316	47.9	48.2	48.4	43.7	49.6	47.6
G16LL-10314	47.6	.	50.1	46.9	50.5	48.5
SC17-6009	47.4	47.1	50.3	44.9	49.4	47.8
SC17-6508RR1	49.0	46.4	49.4	47.9	48.3	48.2
SC17-6513RR1	47.0	44.6	49.1	46.3	48.3	47.0
SC17-6515RR1	48.7	48.1	50.0	47.8	49.7	48.9
SC17-6518LRR1	49.4	48.3	52.4	47.9	50.9	49.8
SC17-6521RR2	47.3	48.0	51.2	47.6	50.6	49.0
Mean	48.7	47.9	51.0	47.5	50.0	49.0
LSD(0.05)	.	.	.	.	.	1.2
CV(%)	.	.	.	.	.	1.9

†Estimated meal protein percentage is reported on a 13% moisture basis.